



RTK



Control valves | Actuators Sensors | Electronic components | Actuators Regulators

## SMART RELIABLE FLOW CONTROL SOLUTIONS



# WELKOM BIJ TUBI VALVES NEDERLAND B.V.

## Industriële appendages en instrumentatie met vakkundig advies

Tubi Valves is een **adviserende technische groothandel** in appendages en instrumentatie. Voor diverse toepassingen in de procesindustrie, zoals chemie, petro-chemie, energie- en watervoorziening leveren wij appendages. Tevens leveren wij aan u op maat samengestelde appendages. Wij helpen u **snel en vakkundig** door middel van deskundig advies en flexibele service.

Door **exclusieve afspraken** met fabrikanten en voorraadhoudende handelshuizen hebben wij de beschikking over ruim 85 miljoen euro aan voorraad met producten uit de hele wereld. Tubi Valves Nederland is voor u het **betrouwbare middelpunt** van deze aanpak. De appendages leveren we snel in heel Europa.

### Modern en flexibel

Wij zijn een modern en flexibel bedrijf, met **veel ervaring en expertise** in huis. Als organisatie zijn wij **NEN-EN-ISO 9001:2015 gecertificeerd**.

Vanuit onze vestiging in Zwaag (Hoorn) staan wij u graag bij met uw vraagstukken. We kunnen u appendages leveren van gerenommeerde merken en leveren daarbij de benodigde service.



Ons programma omvat in hoofdlijnen de volgende productgroepen:

- Kogelkranen
- Klep- & Balgafsluiters
- Terugslagkleppen
- Veiligheidsventielen, Overstort- & Reduceertoestellen
- Membraanafsluiters, Magneetafsluiters & Plugkranen
- Condenspotten & Stoomappendages
- Regelkleppen inclusief berekeningen
- Druk- & Temperatuur instrumentatie
- Automatisatie (pneumatisch, elektrisch, hydraulisch) en Signalisatie
- Vlinderkleppen
- Schuif- & Plaatafsluiters
- Filters & Kijkglazen

U kunt bij ons kiezen uit een **uitgebreid assortiment**, vindt u echter niet wat u zoekt, vraag het dan bij ons aan.

Tubi Valves:

**Uw specialist in industriële afsluiters en appendages.**

## INDUSTRIËLE AFSLUITERS VOOR TAL VAN TOEPASSINGEN

Ons programma voor het leveren van industriële afsluiters en kleppen aan de procesindustrie is zeer divers. Al deze (merk)artikelen vinden dan ook hun weg naar de vele toepassingen.

### Kwalitatieve producten, juist advies en snelle service

Wij staan u bij in de keuze van de juiste afsluiters voor uw applicatie. Wanneer u aangeeft voor welke toepassing de afsluiters dienen te worden gebruikt, bieden wij u vrijblijvend in samenwerking met onze fabrikanten en partners, de benodigde appendages aan. Wij kunnen daarnaast het volgende voor u verzorgen:

#### Aanpassingen en modificering

- spindelverlengingen t.b.v. isolatie of afstand overbrugging
- samenbouw, montage en testen van aandrijvingen
- afstellen eindcontacten en positioners

#### Leveringen

- leveringen wereldwijd
- levering op verschillende locaties
- leveringen 'just in time', deelleveringen mogelijk

#### Projectbegeleiding

- projectmatige administratieve verwerking
- projectbespreking bij u, ons of op locatie
- projectbespreking gezamenlijk met of bij fabrikant
- ondersteuning voor U aan de eindklant

#### Technische informatie

- verzorgen van een technisch dossier
- aanleveren van 2D & 3D tekeningen in diversen formaten
- verzorgen van certificaten

#### Controle van afsluiters

- geautomatiseerde afsluiters worden voor u getest
- afstellen / certificeren van appendages kunnen wij verzorgen in samenwerking met Lloyd's, Bureau Veritas (BV) of door u op te geven

#### Facturering

- Via post en/of digitaal (pdf, xml)

### Internationaal bereik

Ons verkoopkantoor in Zwaag beschikt samen met onze fabrikanten en partners over een voorraad van meer dan 85 miljoen euro aan afsluiters en appendages vanuit de hele wereld. Door onze vervoerdersafspraken leveren we snel in heel Europa.

### Service en advies

Als modern en dynamisch bedrijf staan we garant voor producten en advies van goede kwaliteit. Daarbij hoort een uitstekende service:

- snelle offerte- en orderverwerking
- aanwezigheid van technische databladen
- advies door goed opgeleid personeel
- informatievoorziening door moderne media zoals Facebook en Twitter



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| MV 5270            | PV 6270            | Control valves                                           | DIN 16        |
| MV 5300            | PV 6300            | Control valves                                           | DIN / ANSI 18 |
| MV 5400            | PV 6400            | Control valves                                           | DIN / ANSI 20 |
| SL Typ A / B       | SL Typ A / B       | Flow-control silencer                                    | DIN / ANSI 22 |
| MV 52 / 53 / 54 AD | PV 62 / 63 / 64 AD | Heavy duty control valves                                | ANSI 24       |
| ST 6151 / ST 6152  | –                  | Control valves with fail closed unit                     | DIN 26        |
| MV 5351 / 5451     | PV 6351 / 6352     | Steam converting valves                                  | DIN 28        |
| MDK 5351 / 5451    | PDK 6351 / 6451    | Multi nozzle lancer desuperheaters                       | DIN 30        |
| MV 5291 / 5391     | –                  | Feed-water control valves with re-circulation connection | DIN 32        |
| MV 5291D / 5291V   | PV 6291D / 6291V   | Continuous blow down valves                              | DIN 34        |
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## CONTROL VALVES

- Electric and pneumatic control valves (heat control)
- Electric and pneumatic control valves (refrigeration)
- Shut-off valves
- Three way control valves
- Flow-control silencers
- RTK – Heavy duty control valves
- Electric control valves with fail closed unit
- Steam converting valves
- Multi nozzle lancer desuperheaters
- Feed-water control valves with re-circulation connection
- Continuous blow down valves
- Bottom blow down valves
- Valves for discharge / re-circulation control



MV 5211



PV 6221

### Electric series

With electric actuators  
REact 15E  
REact 30E/DC

### Pneumatic series

With pneumatic actuators  
ST 6115  
ST 6135

With  
Bellows seal

|         |         |     |
|---------|---------|-----|
| MV 5211 | PV 6211 | —   |
| MV 5214 | PV 6214 | yes |
| MV 5221 | PV 6221 | —   |
| MV 5224 | PV 6224 | yes |
| MV 5231 | PV 6231 | —   |
| MV 5234 | PV 6234 | yes |

## Technical data

|                          | DIN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ANSI                                                                                    |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| Nominal diameter         | DN 15 ... 100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | NPS ½ ... 4                                                                             |
| Nominal pressure         | PN 16 ... 160                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | CL 150 ... 900                                                                          |
| Body materials           | EN-GJL-250 (PN 16)<br>EN-GJS-400-18-LT (PN 16; 25)<br>GP240GH (PN 16 ... 160)<br>G17CrMo5-5 (PN 63 ... 160)<br>GX5CrNiMo19-11-2 (PN 16 ... 40)<br>Other materials available on request                                                                                                                                                                                                                                                                                                                                   | SA216 WCB<br>SA351 CF8M<br>SA217 WC6<br>SA217 WC9                                       |
| Flanges                  | According to DIN 2501; EN 1092-1 and EN 1092-2<br>Different flanges on request                                                                                                                                                                                                                                                                                                                                                                                                                                           | According to ASME B16.5<br>RF und RTJ                                                   |
| Butt Weld ends           | According to DIN 3239 – part 1 or EN 12627<br>Edge form DIN 2559-21 (Others on request)<br>End connection P235GH for body material GP-240 GH<br>End connection 13CrMo4-5 for body material G 17 CrMo 5-5                                                                                                                                                                                                                                                                                                                 | According to ASME B16.5                                                                 |
| Further End Connections  | Threaded NPT according to ASME B16.11<br>Socket Weld Ends according to ASME B16.11 Class 3000                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                         |
| Stem packing             | Chevron rings PTFE-graphite (max. +250 °C)<br>Stufing box pure graphite (max. +530 °C medium dependent)<br>Bellows seal with safety stufing box (max. +350 °C PN 100 up to DN 40)<br>Stem packing with DVGW-Approval (max. 6 bar, +60 °C)<br>Stem packing for oxygen with BAM approval (max. +50 °C)                                                                                                                                                                                                                     |                                                                                         |
| Trim variations          | Shut-off plug 1.4122, 1.4122 hardened, stellite<br>Parabolic plug 1.4122, 1.4122 hardened, stellite, Ferro Titanium<br>V-port plug 1.4122, 1.4122 hardened, stellite 1.4408<br>Perforated plug 1.4122, 1.4122 hardened<br>Mixing- / Diverting plug 1.4122, 1.4408<br>Soft seat PTFE graphite PTFE graphite<br>Seat 1.4571 (AISI 316Ti), stellite<br>Stem 1.4571 (AISI 316Ti)<br>Quick Change Seat Ring one/two stage (Retainer SA487 CA6NM)<br>According to NACE MR0175 / MR0103<br>Other materials available on request | (open-close)<br>(equal% / linear)<br>(equal% / linear)<br>(equal% / linear)<br>(linear) |
| Version for refrigerants | Chevron packing rings NBR (-60 °C to +100 °C)<br>Chevron rings PTFE-graphite (-60 °C to +250 °C)<br>Seals (gaskets) suitable for refrigerants<br>Bellows seal with safety stufing box<br>Stem heater with glycerine cup, free from non-ferrous metals<br>Bonnet studs and nuts in stainless steel<br>Epoxy coating<br>Flanges with groove according EN 1092-1 (DIN 2512)                                                                                                                                                 |                                                                                         |
| Seat leakage             | According DIN EN 1349<br>Class IV (metal to metal)<br>Class IV-S2 (lapped in metal to metal)<br>Class VI (soft seat with PTFE-Graphite max. +200°C)                                                                                                                                                                                                                                                                                                                                                                      | According to ANSI / FCI 70-2<br>Class IV<br>Class V (optional)<br>Class VI              |
| Max. press / temp.       | According to DIN EN 1092                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | ASME B16.34                                                                             |
| Approvals                | DGRL (CE), DVGW, ATEX (für PV...),<br>DNV-GL, RINA, ABS, TR TS (EAC), CRN, CCC                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                         |



MV 5174

### Electric series

With electric actuator  
REact 15E

With  
Bellows seal

MV 5174

yes

Motorized control valves for mixing and diverting (up to DN 65) used for thermal oil and other process liquids

- Three-way design with shortened B-flange
- Long life chambered bellows seal with twist lock
- Actuator can be turned as desired for simple operating and cabling

### Technical data

|                  |                                                            |                |
|------------------|------------------------------------------------------------|----------------|
| Nominal diameter | DN 50 und 65                                               |                |
| Nominal pressure | PN 16                                                      |                |
| Body material    | EN-GJS-400-18-LT                                           |                |
| Flanges          | According to DIN EN 1092-2<br>Different flanges on request |                |
| Stem packing     | Metal bellows seal with<br>safety stuffing box             | (max. +350 °C) |
| Trim variations  | Mixing plug 1.4122                                         | (linear)       |
|                  | Bellows + Stem 1.4571                                      | (AISI 316 Ti)  |
|                  | Seat 1.4571                                                | (AISI A316 Ti) |
|                  | Other materials available on request                       |                |
| Seat leakage     | According to DIN EN 1349, Class IV                         |                |
| Approvals        | DGRL (CE), CCC                                             |                |



**REact**



**Electric series**

With electric actuators  
REact 15E  
REact 30E/DC

**Pneumatic series**

With pneumatic actuators  
ST 6115  
ST 6135

With  
Bellows seal

|         |         |     |
|---------|---------|-----|
| MV 5271 | PV 6271 | —   |
| MV 5274 | PV 6274 | yes |

## Technical data

|                  |                                                                                                                                   |                |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------|----------------|
| Nominal diameter | DN 20 ... 100                                                                                                                     |                |
| Nominal pressure | PN 16, 25                                                                                                                         |                |
| Body materials   | EN-GJL-250                                                                                                                        | (max. PN 16)   |
|                  | EN-GJS-400-18-LT                                                                                                                  | (max. PN 25)   |
| Flanges          | Connection according to DIN 2501<br>Facing DIN 2526 Form C<br>Connection according to DIN EN 1092<br>Different flanges on request |                |
| Stem packing     | Chevron rings PTFE-graphite                                                                                                       | (max. +250 °C) |
|                  | Bellows seal with safety stuffing box                                                                                             | (max. +350 °C) |
| Trim variations  | Mixing plug 1.4122 / 1.4408                                                                                                       | (linear)       |
|                  | Stem + Seat 1.4571                                                                                                                |                |
|                  | Other materials available on request                                                                                              |                |
| Seat leakage     | According DIN EN 1349                                                                                                             |                |
|                  | Class IV (metal to metal)                                                                                                         |                |
|                  | Class IV-S2 (lapped in metal to metal)                                                                                            |                |
| Approvals        | DGRL (CE), ATEX (für PV...), TR TS (EAC), CCC                                                                                     |                |

**REflex**

MV 5311

**REact**

PV 6321



PV 6314

**Electric series**

With electric actuators  
REact 60E/DC  
REact 100E/DC

**Pneumatic series**

With pneumatic actuators  
ST 6160

With  
Bellows seal

With Bellows  
seal PN100

|         |         |     |     |
|---------|---------|-----|-----|
| MV 5311 | PV 6311 | –   | –   |
| MV 5314 | PV 6314 | yes | yes |
| MV 5321 | PV 6321 | –   | –   |
| MV 5324 | PV 6324 | yes | –   |
| MV 5331 | PV 6331 | –   | –   |
| MV 5334 | PV 6334 | yes | –   |

## Technical data

|                          | DIN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ANSI                                                                                                            |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| Nominal diameter         | DN 15 ... 150                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | NPS ½ ... 6                                                                                                     |
| Nominal pressure         | PN 16 ... 160                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | CL 150 ... 900                                                                                                  |
| Body materials           | EN-GJL-250 (PN 16)<br>EN-GJS-400-18-LT (PN 16; 25)<br>GP240GH (PN 16 ... 160)<br>G17CrMo5-5 (PN 63 ... 160)<br>GX5CrNiMo19-11-2 (PN 16 ... 40)<br>Other materials available on request                                                                                                                                                                                                                                                                                                                                                                                | SA216 WCB<br>SA351 CF8M<br>SA217 WC6<br>SA217 WC9                                                               |
| Flanges                  | According to DIN 2501; EN 1092-1 and EN 1092-2<br>Different langes on request                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | According to ASME B16.5                                                                                         |
| Butt weld ends           | According to DIN 3239 – part 1 or EN 12627<br>Edge form DIN 2559-21 (Others on request)<br>End connection P235GH for body material GP-240 GH<br>End connection 13CrMo4-5 for body material G 17 CrMo 5-5                                                                                                                                                                                                                                                                                                                                                              | According to ASME B16.5                                                                                         |
| Further End Connections  | Threaded NPT according to ASME B16.11<br>Socket Weld Ends according to ASME B16.11 Class 3000                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                 |
| Stem packing             | Chevron rings PTFE-graphite (max. +250 °C)<br>Stuffing box pure graphite (max. +530 °C medium dependent)<br>Bellows seal with safety stuffing box (max. +350 °C PN 100 up to DN 40)<br>With TA-Luft (max. +400 °C)<br>Stem packing with DVGW-Approval (6 bar, max. +60 °C)<br>Stem packing for oxygen with BAM approval (max. +50 °C)                                                                                                                                                                                                                                 |                                                                                                                 |
| Trim variations          | Shut-off plug 1.4122, 1.4122 hardened, stellite<br>Parabolic plug 1.4122, 1.4122 hardened, stellit, Ferro Titanium<br>V-port plug 1.4122, 1.4122 hardened, stellit 1.4408<br>Perforated plug 1.4122, 1.4122 hardened<br>Mixing- / Diverting plug 1.4122, 1.4408<br>Balanced plug PTFE graphite<br>Soft seat PTFE-graphite 1.4571 (AISI 316Ti), stellite<br>Seat 1.4571 (AISI 316Ti), stellite<br>Stem 1.4571 (AISI 316Ti)<br>Quick Change Seat Ring one/two stage (Retainer SA487 CA6NM)<br>According to NACE MR0175 / MR0103<br>Other materials available on request | (Quick opening)<br>(equal% / linear)<br>(equal% / linear)<br>(equal% / linear)<br>(linear)<br>(equal% / linear) |
| Version for refrigerants | Chevron packing rings NBR (-60 °C to +100 °C)<br>Chevron rings PTFE-graphite (-60 °C to +250 °C)<br>Seals (gaskets) suitable for refrigerants<br>Bellows seal with safety stuffing box<br>Stem heater with glycerine cup, free from non-ferrous metals<br>Bonnet studs and nuts in stainless steel<br>Epoxy coating<br>Flanges with groove                                                                                                                                                                                                                            |                                                                                                                 |
| Seat leakage             | According DIN EN 1349<br>Class IV (metal to metal)<br>Class IV-S2 (lapped in metal to metal)<br>Class VI (soft seat with PTFE-Graphite max. +200°C)                                                                                                                                                                                                                                                                                                                                                                                                                   | According to ANSI / FCI 70-2<br>Class IV<br>Class V (optional)<br>Class VI                                      |
| Max. press / temp.       | According to DIN EN 1092                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ASME B16.34                                                                                                     |
| Approvals                | DGRL (CE), DVGW, TA-Luft, ATEX (for PV...),<br>DNV-GL, RINA, ABS, TR TS (EAC), CRN, CCC                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                 |

**REflex**

MV 5411



MV 5421



PV 6411

**Electric series**

With electric actuators  
ST 5106  
ST 5116

**Pneumatic series**

With pneumatic actuators  
ST 6175

With  
Bellows seal

|         |         |     |
|---------|---------|-----|
| MV 5411 | PV 6411 | –   |
| MV 5414 | PV 6414 | yes |
| MV 5421 | PV 6421 | –   |
| MV 5424 | PV 6424 | yes |
| MV 5431 | PV 6431 | –   |
| MV 5434 | PV 6434 | yes |

## Technical data

|                          | DIN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ANSI                                                                                       |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| Nominal diameter         | DN 40 ... 400                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | NPS 1 ½" ... 12"                                                                           |
| Nominal pressure         | PN 16 ... 160                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Class 150 ... 900                                                                          |
| Body materials           | EN-GJL-250 (PN 16)<br>EN-GJS-400-18-LT (PN 16; 25)<br>GP240GH (PN 16 ... 160)<br>G17CrMo5-5 (PN 63 ... 160)<br>GX5CrNiMo19-11-2 (PN 16 ... 40)<br>Other materials available on request                                                                                                                                                                                                                                                                                                                   | SA216 WCB<br>SA351 CF8M<br>SA217 WC6<br>SA217 WC9                                          |
| Flanges                  | According to DIN 2501; EN 1092-1 and EN 1092-2<br>Different flanges on request                                                                                                                                                                                                                                                                                                                                                                                                                           | According to ASME B16.5<br>RF and RTJ                                                      |
| Butt weld ends           | According to DIN 3239 – part 1 or EN 12627<br>Edge form DIN 2559-21 (Others on request)<br>End connection P235GH for body material GP-240 GH<br>End connection 13CrMo4-5 for body material G 17 CrMo 5-5                                                                                                                                                                                                                                                                                                 | According to ASME B16.5                                                                    |
| Further End Connections  | Threaded NPT according to ASME B16.11<br>Socket Weld Ends according to ASME B16.11 Class 3000                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                            |
| Stem packing             | Chevron rings PTFE-graphite (max. +250 °C)<br>Stuffing box pure graphite (max. +530 °C medium dependent)<br>Bellows seal with safety stuffing box (max. +350 °C PN 100 up to DN 40)<br>Stem packing with DVGW-Approval (6 bar, max. +60 °C)<br>Stem packing for oxygen with BAM approval (max. +50 °C)                                                                                                                                                                                                   |                                                                                            |
| Trim variations          | Shut-off plug 1.4122, 1.4122 hardened, stellite<br>Parabolic plug 1.4122, 1.4122 hardened, stellit, Ferro Titanium<br>V-port plug 1.4122, 1.4122 hardened, stellit 1.4408<br>Perforated plug 1.4122, 1.4122 hardened<br>Mixing- / Diverting plug 1.4122, 1.4408<br>Soft seat PTFE graphite<br>Seat 1.4571 (AISI 316Ti), stellite<br>Stem 1.4571 (AISI 316Ti)<br>Quick Change Seat Ring one/two stage (Retainer SA487 CA6NM)<br>According to NACE MR0175 / MR0103<br>Other materials available on request | (Quick opening)<br>(equal% / linear)<br>(equal% / linear)<br>(equal% / linear)<br>(linear) |
| Version for refrigerants | Chevron packing rings NBR (-60 °C to +100 °C)<br>Chevron rings PTFE-graphite (-60 °C to +250 °C)<br>Seals (gaskets) suitable for refrigerants<br>Bellows seal with safety stuffing box<br>Stem heater with glycerine cup, free from non-ferrous metals<br>Bonnet studs and nuts in stainless steel<br>Epoxy coating<br>Flanges with groove according to EN 1092-1 (DIN 2512)                                                                                                                             |                                                                                            |
| Seat leakage             | According DIN EN 1349<br>Class IV (metal to metal)<br>Class IV-S2 (lapped in metal to metal)<br>Class VI (soft seat with PTFE-Graphite max. +200°C)                                                                                                                                                                                                                                                                                                                                                      | According to ANSI / FCI 70-2<br>Class IV<br>Class V (optional)<br>Class VI                 |
| Max. press / temp.       | According to DIN EN 1092                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | ASME B16.34                                                                                |
| Approvals                | DGRL (CE), DVGW, TA-Luft, ATEX (for PV...),<br>DNV-GL, RINA, ABS, TR TS (EAC), CRN, CCC                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                            |



SL Type-B

### SL-Type

For liquid media

For gases  
and vapours

SL Type A

SL Type B

Flow-control silencer / expansion after control valves to reduce noise after choked flow of gases and vapours. In order to largely suppress cavitation / evaporation in liquid media and sound reduction.

- Suitable for operating temperatures up to +530 °C
- System of two to four throttle plates
- Including pipe expansion
- Supplied ready to it including the connecting elements

## Technical data

Inlet and outlet PN 40 ... 160, Class 300 ... 900  
Different nominal pressure ranges for  
inlet and outlet on request

|           |                                      |                     |
|-----------|--------------------------------------|---------------------|
| Materials | P250GH                               | (PN 40 ... 160)     |
|           | Equivalent to A105                   | (Class 300 ... 900) |
|           | 1.4571                               | (PN 40 ... 160)     |
|           | Equivalent to A316Ti                 | (Class 300 ... 900) |
|           | 13CrMo4-5                            | (PN 63 ... 160)     |
|           | Equivalent to A355                   | (Class 600 ... 900) |
|           | Other materials available on request |                     |

|         |                                                            |
|---------|------------------------------------------------------------|
| Flanges | Connection to EN 1092 form B1<br>Connection to ASME B 16.5 |
|---------|------------------------------------------------------------|

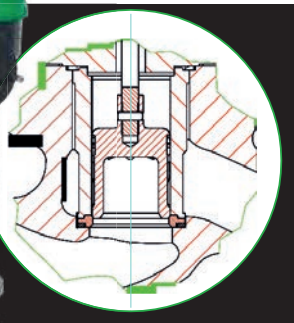
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|-----------|-----------|
| Approvals | DGRL (CE) |
|-----------|-----------|



PV 6311-AD



MV 5311-AD



### Electric series

With electric actuators

ST 5113  
ST 5114  
ST 5106  
ST 5116

MV 5311-AD

MV 5411-AD

### Pneumatic series

With pneumatic actuators

ST 6135  
ST 6160  
ST 6175

PV 6311-AD

PV 6411-AD

### All-purpose cage guided globe control valve

- High low capacities provide larger low area, reduced body velocity and pressure loss
- Yoke lock nut guarantees easy disassembly
- Hardened / Stainless steel trim provides twice the service life of 316 stainless trim
- Cup seal with three times the wear surface of competitive valves for long lasting leak tight seal
- Multiple cage options for maximum versatility
- Balanced plug design provides smooth high pressure control
- Ultra compact actuators install in tight spaces
- Tighter shut-off design provides exceptional performance up to Class VI
- Compact actuators can easily be installed in tight spaces

## Technical data

|                      |                                                                                                                                                                                              |                     |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| Body Assembly        | Style: Single seated, top entry bolted bonnet,<br>globe style body, cage guided balanced plug                                                                                                |                     |
| Nominal diameter     | NPS 2 ... 16                                                                                                                                                                                 |                     |
| Nominal pressure     | CL 150 ... 1500                                                                                                                                                                              | NPS 2 ... 8         |
|                      | CL 150 ... 600                                                                                                                                                                               | NPS 10 ... 16       |
| Body material        | Carbon steel, ASTM A216 Gr WCC<br>Chrome moly, ASTM A217 Gr WC9<br>Stainless steel, ASTM Gr CF8M                                                                                             |                     |
| Butt weld ends       | RF, RTJ, BWE (NPT, SWE only for NPS 2)                                                                                                                                                       |                     |
| Stem packing         | PTFE V-Rings                                                                                                                                                                                 | (-29 °C to +230 °C) |
|                      | Laminated graphite                                                                                                                                                                           | (-29 °C to +566 °C) |
| Trim Types           | Standard, Les-Cav I+II, Les-Sonic I+II                                                                                                                                                       |                     |
| Flow Characteristics | Equal percentage, Linear                                                                                                                                                                     |                     |
| Trim Materials       | Martensitic (series 400) / austenitic (series 300)<br>Standard and high temperature versions                                                                                                 |                     |
| Trim Sizes           | Full port, 80 %, 60 % and 40 % reduced<br>Custom, contact application engineering                                                                                                            |                     |
| Kvs values           | 24 – 2666 m <sup>3</sup> / h                                                                                                                                                                 |                     |
| Plug Seal Materials  | C300 spring loaded seal<br>with Inconel spring Class IV or V                                                                                                                                 | (max. +300 °C)      |
|                      | Double carbon-graphite seal rings<br>Leakage Class IV                                                                                                                                        | (max. +538 °C)      |
| Shutoff Class        | According ANSI / FCI 70-2                                                                                                                                                                    |                     |
|                      | Standard trim                                                                                                                                                                                |                     |
|                      | Leakage Class V                                                                                                                                                                              | (-29 °C to +300 °C) |
|                      | Leakage Class IV                                                                                                                                                                             | (-29 °C to +427 °C) |
|                      | Standard trim                                                                                                                                                                                |                     |
|                      | Leakage Class IV                                                                                                                                                                             | (-29 °C to +538 °C) |
| Actuators            | Spring and diaphragm pneumatic actuator<br>280, 530 or 1000 cm <sup>2</sup> actuator<br>Spring closed or spring open<br>Electric actuator<br>Optional: piston, double acting / spring return |                     |

**REact**

MV 5300

**Electric series**

| With electric actuators | Actuators                                    |
|-------------------------|----------------------------------------------|
| MV 52 ...               | Approved by German<br>Technical Inspectorate |
|                         | REact 30                                     |
|                         | ST 6151-5                                    |
|                         | REact 60                                     |
|                         | ST 6151-5                                    |
| MV 53 ...               | REact 60                                     |
|                         | ST 6151-6                                    |
|                         | REact 100                                    |
|                         | ST 6151-6                                    |
| MV 54 ...               | ST 5106                                      |
|                         | ST 6152-1                                    |
|                         | ST 5116                                      |
|                         | ST 6152-1                                    |

**Fail close unit for motorized valves**

MV 52 ... / MV 53 ... / MV 54 ... series

2 way or 3 way design

- Approved by German Technical Inspectorate DIN EN 14597:2012-09 as safety functional device for steam and water in heating systems.  
(Valid only in combination with ST 6151-5)
- Valve closes on loss of power
- Closes smoothly even at large differential pressures
- Adjustable closing time for ST 6152-1
- Automatic return to normal operation possible

## Technical data

|                  | DIN                                                     | ANSI           |                              |
|------------------|---------------------------------------------------------|----------------|------------------------------|
| Nominal diameter | DN 15 ... 100                                           | NPS ½ ... 4    | (Series MV 52 ...)           |
|                  | DN 15 ... 150                                           | NPS ½ ... 6    | (Series MV 53 ...)           |
|                  | DN 40 ... 250                                           | NPS 1½ ... 10  | (Series MV 54 ...)           |
| Nominal pressure | PN 16 ... 160                                           | CL 150 ... 900 |                              |
| Stem packing     | Chevron rings PTFE-graphite                             |                | (max. +250 °C)               |
|                  | Bellows seal with safety stuffing box                   |                | (max. +300 °C)               |
| Trim variations  | V-port plug                                             |                | (equal% / linear)            |
|                  | Perforated plug                                         |                | (equal% / linear)            |
| Seat leakage     | According DIN EN 1349                                   |                | According to ANSI / FCI 70-2 |
|                  | Class IV (metal to metal)                               |                | Class IV                     |
|                  | Class IV-S2 (lapped in metal to metal)                  |                | Class V (optional)           |
|                  | Class VI (soft seat with PTFE-Graphite<br>max. +200 °C) |                | Class VI                     |



## Electric series

With electric actuators  
REact60E/DC  
REact100E/DC  
ST 5106  
ST 5116

## Pneumatic series

With pneumatic actuators  
ST 6160  
ST 6175

MV 5351

PV 6351

MV 5451

PV 6451



PV 6451

Steam-converting valves used to reduce the steam pressure while simultaneously cooling the steam.

- Steam pressure reduction and cooling in one unit
- Low-noise Perforated plug
- Water injection from below
- Wide control range
- Optimized control characteristic with adapted trim for steam and water



## Technical data

|                    |                                                                                                                            |                   |
|--------------------|----------------------------------------------------------------------------------------------------------------------------|-------------------|
| Nominal diameter   | DN 40 ... 250                                                                                                              |                   |
| Nominal pressure   | PN 16 ... 100                                                                                                              |                   |
| Body materials     | GP240GH                                                                                                                    | (PN 16 ... 100)   |
|                    | G17CrMo5-5                                                                                                                 | (PN 63 ... 100)   |
| Flanges            | According to DIN 2501; EN 1092-1 and EN 1092-2<br>Different flanges on request                                             |                   |
| Stem packing       | Chevron rings PTFE-graphite                                                                                                | (max. +250 °C)    |
|                    | Stufing box pure graphite                                                                                                  | (max. +530 °C)    |
| Trim variations    | Perforated plug 1.4122,<br>1.4122 hardened<br>Stem + Seat 1.4571<br>Stellited seat<br>Other materials available on request | (equal% / linear) |
| Seat leakage       | According to DIN EN 1349<br>Class IV (metal to metal)<br>Class IV-S2 (lapped in metal to metal)                            |                   |
| Max. press / temp. | According to DIN EN 1092                                                                                                   |                   |
| Approvals          | DGRL (CE) ATEX (for PV...), TR TS (EAC), CCC                                                                               |                   |



MDK 5351

**Electric series**

With electric actuators  
ST 5106  
ST 5116

MDK 5351

MDK 5451



PDK 6351

**Pneumatic series**

With pneumatic actuators  
ST 6175

PDK 6351

PDK 6451

**RE**cool

Injection cooler – Desuperheated  
steam cooler

- Variable control characteristics
- Precise steam temperature control
- Variable turndown ratio 10 :1 / 25:1
- Excellent atomising characteristic at  $\Delta P$  water/steam of minimum 10 bar at minimum. Steam velocity of 10 m/s.
- Max.  $\Delta P$  Water/Steam up to 100 bar. No additional control valve is required.
- Tight shut-off, without any leakage
- High reliability due to simple parts and minimum wear

## Technical data

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                          |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
| Body materials          | 15Mo3 (~ ASTM A182 F1)<br>13CrMo (~ ASTM A182 F12)<br>Inner parts made of min.13% chromium steels                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                          |
| Flanges                 | Cooling water inlet flange DN 25 / 40 / 50<br>Mounting flange DN 80 / 100<br>Connection Options in DIN or ANSI (On request)<br>Minimum inside pipe diameter on mounting flange 76 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | (PN 25 ... PN 400)<br>(PN 25 ... PN 400) |
| Description of function | <p>In cases where, steam conditioning valves are only of limited use or can no longer be used in the event of a subcritical steam pressure reduction requiring steam cooling, due to very small or very large water requirement (more than 25 % of the steam quantity) and/or where very large differences between the operating condition exist. In such cases, the steam temperature is controlled by injecting finely atomized cooling water into the steam low by injection cooler of the series PDK 6X51 / MDK 5X51 after the steam pressure has been reduced. This brings the steam to the desired value (at least 5 K above the saturated steam temperature).</p> <p>In the nozzle chambers, the cooling medium is accelerated and starts to rotate by means of a twist insert, so that a very finely atomized spray cone is created when it is discharged into the steam piping. This guarantees a very good mixing of the cooling medium with the hot steam low and ensures an optimum cooling effect. By using several twist nozzles (the necessary number is adapted to the operating data) a very good and precise steam temperature control is achieved for the planned operating states between the minimum and maximum mass flow of hot steam that is to be cooled.</p> <p>The valve seat is positioned directly upstream from the nozzle head which completely prevents any undesired dripping due to its tight connection with the control piston. The control piston is lapped tightly into the seat during production.</p> |                                          |



## Electric series

With electric actuators

REact 30E/DC

REact 60E/DC

REact 100E/DC

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MV 5291

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MV 5391

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**REact**



MV 5391

Control valve for steam boiler  
feed-water control systems

- Boiler-feed pump securely protected against falling below the minimum low rate
- Adjustable re-circulation low rate
- Perforated plug for feed-water control
- Boiler steam ratings 5 ... 50 t/h

## Technical data

|                         |                                                                                                                                 |                      |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------|----------------------|
| Nominal diameter        | DIN                                                                                                                             | ANSI                 |
|                         | DN 25 ... 80                                                                                                                    | NSP 1 ... 3          |
| Nominal pressure        | PN 40                                                                                                                           | CL 150               |
|                         |                                                                                                                                 | CL 300               |
| Body materials          | 1.0619 / 1.4408                                                                                                                 | SA216 WCB            |
|                         |                                                                                                                                 | SA351 CF8M           |
| Stem packing            | Chevron rings PTFE-graphite                                                                                                     | (bis +250 °C)        |
| Trim variations         | Perforated plug for feed-water and re-circulation<br>(DN 40, DN 50, DN 65 re-circulation adjustable)<br>1.4122, 1.4122 hardened |                      |
| Seat leakage            | According to DIN EN 1349                                                                                                        | According to ANSI /  |
|                         | Class IV (metal seated)                                                                                                         | FCI 70-2<br>Class IV |
| Max. medium Temperature | +200 °C                                                                                                                         |                      |
| Max. press / temp.      | According to DIN EN 1092                                                                                                        | According to ASME    |
|                         |                                                                                                                                 | B16.34               |
| Approvals               | DGRL (CE), ATEX (for PV...), TR TS (EAC), CCC                                                                                   |                      |

**REflex**



**REact**

MV 5291-D



PV6291-V

### Electric series

With electric actuators  
REact 15 E

MV 5291-D

MV 5291-V

### Pneumatic series

With pneumatic actuators  
ST 6135

PV 6291-D

PV 6291-V

Motorized control valves for continuous blow down  
of steam boilers.

- Two-way design with (V) / without (D) sample valve
- Durable execution
- Hardened plug and seat for low wear operation
- body material GP-240-GH
- Parabolic plug with linear characteristic for exact dosing of blow down low rate

## Technical data

|                     | DIN                                                   | ANSI                                     |
|---------------------|-------------------------------------------------------|------------------------------------------|
| Nominal diameter    | DN 15, 20, 25, 40                                     | NPS ½, ¾, 1 und 1½                       |
| Nominal pressure    | PN 40                                                 | CL 300                                   |
| Body material       | GP-240-GH                                             | SA 216 WCB                               |
| Stem packing        | Chevron rings PTFE-graphite                           | (bis +250 °C)                            |
| Trim variations     | Parabolic plug                                        |                                          |
| Seat leakage        | According to DIN EN 1349<br>Class IV (metal to metal) | According to ANSI / FCI 70-2<br>Class IV |
| Max. press. / temp. | According to DIN EN 1092                              | According to ASME B16.34                 |
| Approvals           | DGRL (CE), ATEX (for PV...), CCC                      |                                          |



PV 6291



HV 6291



PV 6291-E

### Pneumatic series

With pneumatic actuator  
ST 6135

PV 6291

PV 6291-E

With Handwheel

HV 6291

Bottom blowdown valves for steam boilers

- Maintenance free stem packing
- Clear low through valve
- Protection of stem packing by back sealing
- Easy replacement of plug
- Reduced susceptibility to water hammer due to bonnet having a smaller cross sectional area
- Guided plug which reduces plug vibration
- Supplied with high quality B7A grooved gaskets

## Technical data

|                    | Two-way design                                                                                                                                                    |                | Angle form                                    |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------------------------------------------|
|                    | DIN                                                                                                                                                               | ANSI           | DIN                                           |
| Nominal diameter   | DN 20 ... 65                                                                                                                                                      | NPS ¾ ... 2 ½  | DN 20 ... 50                                  |
| Nominal pressure   | PN 40                                                                                                                                                             | CL 300         | PN 63 ... 160                                 |
| Body material      | GP240GH                                                                                                                                                           | SA 216 WCB     | GP240GH, Others on request                    |
| Stem packing       | Chevron rings<br>PTFE-graphite                                                                                                                                    | (max. +250 °C) | Chevron rings<br>PTFE-graphite (max. +290 °C) |
| Trim variations    | Shut-off plug<br>Stem + Seat 1.4571                                                                                                                               |                | Shut-off plug<br>Stem + Seat 1.4571 Stellited |
| Mounting position  | Any                                                                                                                                                               |                |                                               |
| Max. press / temp. | According to DIN EN 1092                                                                                                                                          |                | According to ASME B16.34                      |
| Options            | Solenoid valve with control unit for bottom blowdown valve                                                                                                        |                |                                               |
| Function HV 6291   | The bottom blowdown valve is operated by hand lever<br>The valve closes automatically when the lever is released<br>The valve can be blocked in the open position |                |                                               |
| Function PV 6291   | The air supply must not exceed 6 bar<br>The blowdown valve must be quickly + fully opened                                                                         |                |                                               |
| Approvals          | DGRL (CE), ATEX (for PV...), CCC                                                                                                                                  |                |                                               |

**REflex****Electric series**

With electric actuators  
REact 30E/DC  
REact 60E/DC  
REact 100E/DC

MV 5241

MV 5341

**Pneumatic series**

With pneumatic actuators  
ST 6135  
ST 6160

PV 6241

PV 6341

**REact**

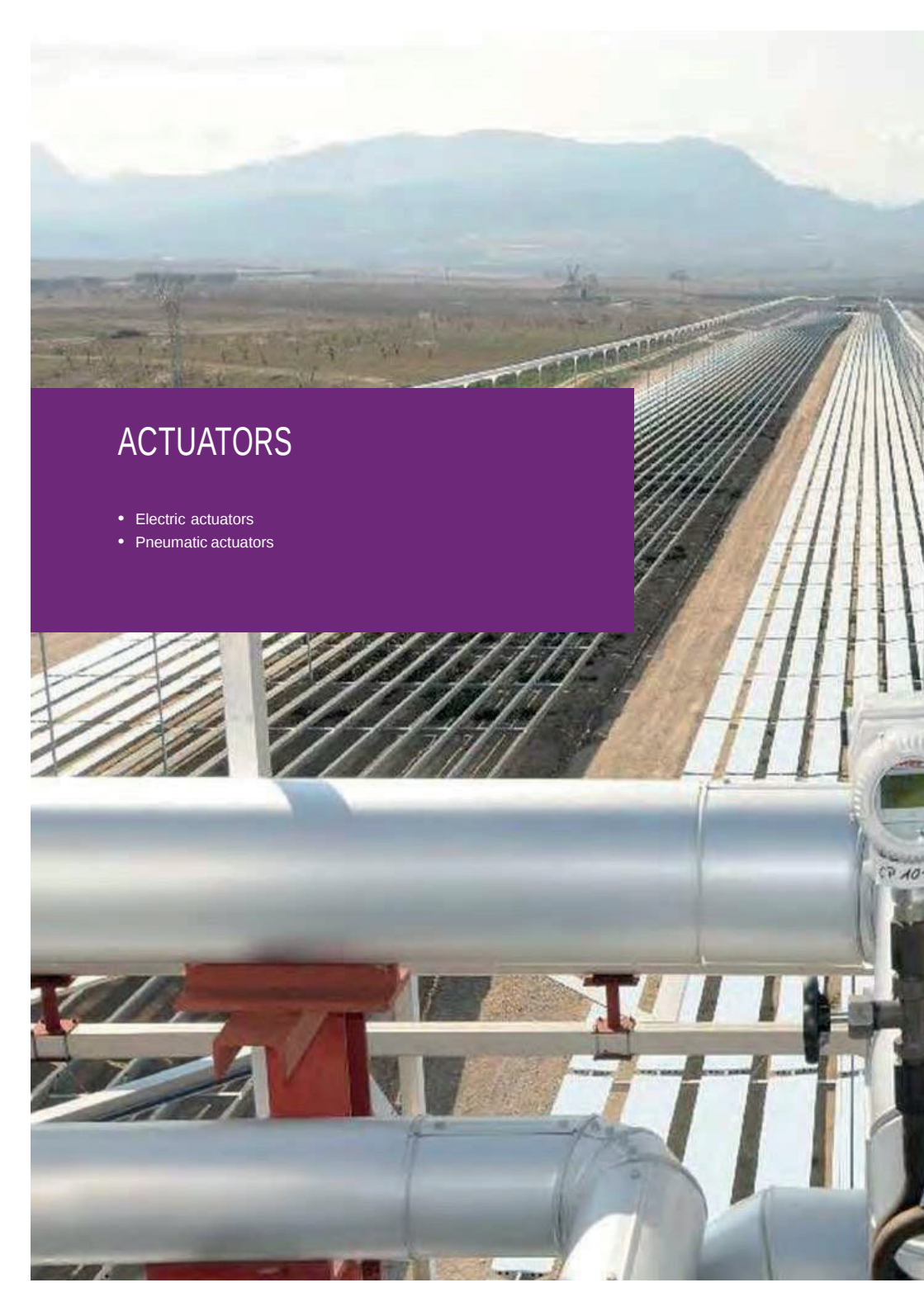
Control valves for discharge / re-circulation  
used for water- or air-cooled condensers

- Three-way design
- Kvs value adjustable in gate B
- Plug can be rotated 80°
- Vacuum-resistant on re-circulation side
- Re-circulation plug assy cavitation resistant

MV 5341

## Technical data

|                    |                                                                                |                                 |
|--------------------|--------------------------------------------------------------------------------|---------------------------------|
| Nominal diameter   | DN 50 ... 150                                                                  |                                 |
| Nominal pressure   | PN 16 ... 40                                                                   |                                 |
| Body materials     | EN-GJS-400-18-LT                                                               | (max. PN 25)                    |
|                    | GP240GH                                                                        | (max. PN 40)                    |
|                    | GX5CrNiMo19-11-2                                                               | (max. PN 40)                    |
| Flanges            | According to DIN 2501; EN 1092-1 and EN 1092-2<br>Different flanges on request |                                 |
| Stem packing       | Chevron rings PTFE-graphite                                                    | (max. +250 °C)                  |
|                    | Stufing box pure graphite                                                      | (max. +530 °C medium dependent) |
|                    | With "TA-Luft" (MV 5341)                                                       | (max. +400 °C)                  |
| Trim variations    | Diverting plug to control low / re-circulation                                 | (linear)                        |
|                    | Stem + Seat 1.4571                                                             |                                 |
|                    | Parabolic plug 1.4122                                                          |                                 |
|                    | Perforated plug 1.4122, 1.4122 hardened                                        |                                 |
|                    | Other materials available on request                                           |                                 |
| Seat leakage       | According to DIN EN 1349<br>Class IV (metal to metal)                          |                                 |
| Max. press / temp. | According to DIN EN 1092                                                       |                                 |
| Approvals          | DGRL (CE), ATEX (for PV...), CCC                                               |                                 |



# ACTUATORS

- Electric actuators
- Pneumatic actuators







### Series

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REact 15E- 038

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REact 15 DC

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Electric actuator for modulating control and shut/off valves with brushless 24VDC motor technology (REdrive)

- operated by 3-term-step controllers or analogue signals 0/4-20 mA, 0/2...10V
- force switches for both directions
- limit switch for one direction, spindle retracted
- protection rating IP 65
- valve position indicator
- manual control
- optional accessories available

### Options:

- Spring clamp connection terminals
- 2 freely selectable limit switches
- Anti condensation heater
- Feedback potentiometer
- Feedback transducer 2 or 3-Wire
- Digital valve positioner

## Technical data

|                       |                                     |                       |                       |             |           |           |           |
|-----------------------|-------------------------------------|-----------------------|-----------------------|-------------|-----------|-----------|-----------|
| Type                  | REact 15 E                          |                       |                       | REact 15 DC |           |           |           |
| Operating force       | 1,5 kN                              |                       |                       |             |           |           |           |
| Closing force         | 1,7 kN                              |                       |                       |             |           |           |           |
| Stroke                | max. 35 mm                          |                       |                       |             |           |           |           |
| Speed                 | 0,38 mm/s                           |                       |                       | 0,28 mm/s   | 0,38 mm/s | 0,57 mm/s | 1,14 mm/s |
| Power draw            | 13,2 VA                             |                       |                       | 4,5 W       | 5 W       | 6,2 W     | 8,6 W     |
| Isolation class       | B                                   |                       |                       |             |           |           |           |
| Motor voltage         | 24 V AC-<br>50/60 HZ                | 115 V AC-<br>50/60 HZ | 230 VAC -<br>50/60 HZ | 24 VDC      |           |           |           |
| Motor rating standard | S1                                  |                       |                       |             |           |           |           |
| Limit switches        | 1 switch                            |                       |                       |             |           |           |           |
| Protection rating     | IP 65, DIN VDE 0470                 |                       |                       |             |           |           |           |
| Ambient temperature   | -20 °C bis +70 °C                   |                       |                       |             |           |           |           |
| Mounting position     | Any, except upside down             |                       |                       |             |           |           |           |
| Gear lubricant        | Divinol Fett Central, NIGI Klasse 0 |                       |                       |             |           |           |           |
| Cable glands          | 3 x M16                             |                       |                       |             |           |           |           |
| Weight                | 4,2 kg                              |                       |                       |             |           |           |           |

## Optional accessories

|                           |                                                                      |                                                                |
|---------------------------|----------------------------------------------------------------------|----------------------------------------------------------------|
| 2 additional limit switch | 2 additional circuit board is necessary<br>Contact rating 5 A, 250 V |                                                                |
| Potentiometer             | 1 kΩ<br>2 kΩ<br>5 kΩ                                                 |                                                                |
| Position indicator        | REtrans4W, 3-wire<br>REtrans2W, 2-wire                               | 0(4) – 20 mA<br>0 – 10 V                                       |
| Digital positioner        | REpos<br>Input<br>Output                                             | 0(4) – 20 mA bzw. 0(2) – 10 V<br>0(4) – 20 mA bzw. 0(2) – 10 V |
| Heater                    | 24 V / 3 W                                                           |                                                                |

**REact**

REact 30

### Series

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REact 30E- 028

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REact 30E- 074

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REact 30E- 112

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REact 30 DC

Electric actuator for control and shut/off valves with brushless 24 VDC motor technology (REdrive)

- 3-point step control
- Separate force and limit switches for both directions
- Four speed settings as standard | DC
- Protection rating IP 65
- Valve position indicator
- Manual hand wheel
- Electrical connections via plug/socket connectors
- CE marking

### Options:

- Power pack, input: 90-264 V 50/60 Hz | DC
- Heater
- Speeds individually pre-settable | DC
- Potentiometer
- Position indicator, 2 or 3-wire
- Positioner with display
- Bus system (Profibus DP, CANopen)
- Process controller integrated in cover
- Hydraulic system for fail-safe control

## Technical data

|                       |                                                                                                        |           |           |                     |           |           |           |
|-----------------------|--------------------------------------------------------------------------------------------------------|-----------|-----------|---------------------|-----------|-----------|-----------|
| Type                  | REact 30 E                                                                                             |           |           | REact 30 DC         |           |           |           |
| Operating force       | 2,8 kN                                                                                                 |           |           |                     |           |           |           |
| Closing force         | 3,0 kN                                                                                                 |           |           |                     |           |           |           |
| Stroke                | max. 40 mm                                                                                             |           |           |                     |           |           |           |
| Speed                 | 0,28 mm/s                                                                                              | 0,74 mm/s | 1,12 mm/s | 0,2 mm/s            | 0,28 mm/s | 0,42 mm/s | 0,84 mm/s |
| Power draw            | 12 VA                                                                                                  | 27 VA     | 46 VA     | 9 W                 | 10 W      | 13 W      | 21 W      |
| Motor voltage         | 24 VAC, 115 V, 230 V, 50/60 Hz*                                                                        |           |           | 24 VDC              |           |           |           |
| Isolation class       | B                                                                                                      |           |           |                     |           |           |           |
| Motor rating standard | S1– 100%                                                                                               |           |           |                     |           |           |           |
| Limit switches        | 2 x force switch, 2 x switches<br>Rating 4 A, 250 V<br>2 adjustable switches<br>Rating max. 4 A, 250 V |           |           |                     |           |           |           |
| Protection rating     | IP 65, DIN EN 60529                                                                                    |           |           | IP 65, DIN VDE 0470 |           |           |           |
| Ambient temperature   | -20 °C bis +70 °C*                                                                                     |           |           |                     |           |           |           |
| Mounting position     | Any, except upside down                                                                                |           |           |                     |           |           |           |
| Gear lubricant        | Divinol Fett F 14 EP, NLGI Klasse                                                                      |           |           |                     |           |           |           |
| Cable glands          | 4 x M 20                                                                                               |           |           |                     |           |           |           |
| Weight                | 4,5 kg                                                                                                 |           |           |                     |           |           |           |

\*If you use the power supply (NG2450) the max. ambient temperature is -10°C till +60°C

## Optional accessories

|                                         |                                                                                                            |                               |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------|
| Potentiometer                           | max. 2                                                                                                     | 1 kΩ, 2 kΩ, 5 kΩ              |
| Position indicator                      | REtrans4W, 3-wire                                                                                          | 0(4) – 20 mA, 0(2) – 10 V     |
|                                         | REtrans2W, 2-wire                                                                                          | 4 – 20 mA                     |
| REpos / digital positioner with display | REpos                                                                                                      |                               |
|                                         | Input                                                                                                      | 0(4) – 20 mA bzw. 0(2) – 10 V |
|                                         | Output                                                                                                     | 0(4) – 20 mA bzw. 0(2) – 10 V |
| REpos with Profibus DP                  |                                                                                                            |                               |
| REpos with CAN-Open                     |                                                                                                            |                               |
| Heater                                  | 12-36 V – 3W/6W, 110-230V - 3 W / 6 W                                                                      |                               |
| Power pack                              | Inlet: 90-264V 50/60Hz Outlet: 24VDC                                                                       |                               |
| Process controller                      | Qube, 1 Kanal PID                                                                                          |                               |
| Supplementary equipment                 | NRTL(Nationally Recognized Testing Laboratory)-Certification for USA & Canada<br>Sea air resistant variant |                               |

Additional options on request

**REact**

REact 60

### Series

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REact 60E-030

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REact 60E-045

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REact 60E-090

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REact 60E-170

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REact 60 DC

Electric actuator for control and shut/off valves with brushless 24 VDC motor technology (REdrive)

- 3-point step control
- Separate force and limit switches for both directions
- Four speed settings as standard | DC
- Low height due to adaption spindle
- Protection rating IP 65
- Valve position indicator
- Manual hand wheel
- Electrical connections via plug/socket connectors
- CE marking

### Options:

- Power pack, input: 90-264 V 50/60 Hz | DC
- Heater
- Speeds individually pre-settable | DC
- Potentiometer
- Position indicator, 2 or 3-wire
- REpos positioner with display
- Bus system (Profibus DP, CANopen)
- Process controller integrated in cover
- Hydraulic system for fail-safe control

## Technical data

|                           |                                    |           |          |          |             |          |           |          |
|---------------------------|------------------------------------|-----------|----------|----------|-------------|----------|-----------|----------|
| Type                      | REact 60 E                         |           |          |          | REact 60 DC |          |           |          |
| Operating force           | 6,0 kN                             |           |          |          |             |          |           |          |
| Stroke                    | max. 60 mm                         |           |          |          |             |          |           |          |
| Speed                     | 0,3 mm/s                           | 0,45 mm/s | 0,9 mm/s | 1,7 mm/s | 0,2 mm/s    | 0,3 mm/s | 0,45 mm/s | 0,9 mm/s |
| Power draw                | 27 VA                              | 46 VA     | 46 VA    | 79 VA    | 11,5 W      | 12,5 W   | 18 W      | 27 W     |
| Motor voltage             | 24 VAC, 115 V, 230 V, 50/60 Hz     |           |          |          | 24 VDC      |          |           |          |
| Isolation class           | B                                  |           |          |          |             |          |           |          |
| Motor rating standard     | S1 100%                            | S1 100%   | S1 100%  | S3 50%   | S1 100%     |          |           |          |
| Force switches            | 2, directly wired                  |           |          |          |             |          |           |          |
| Limit switches            | 2, directly wired                  |           |          |          |             |          |           |          |
| Additional limit switches | 2, rating 4 A, 250 V               |           |          |          |             |          |           |          |
| Protection rating         | IP 65, DIN EN 60529                |           |          |          |             |          |           |          |
| Ambient temperature       | -20 °C bis +70 °C*                 |           |          |          |             |          |           |          |
| Mounting position         | Any, except upside down            |           |          |          |             |          |           |          |
| Gear lubricant            | Divinol Fett Central, NIGI grade 0 |           |          |          |             |          |           |          |
| Cable glands              | 4 x M 20                           |           |          |          |             |          |           |          |
| Weight                    | 6,7 kg                             |           |          |          |             |          |           |          |

\*If you use the power supply (NG2450) the max. ambient temperature is -10°C till +60°C

## Optional accessories

|                                         |                                                                               |                           |
|-----------------------------------------|-------------------------------------------------------------------------------|---------------------------|
| Potentiometer                           | max. 2                                                                        | 1 kΩ, 2 kΩ, 5 kΩ          |
| Position indicator                      | REtrans4W, 3-wire                                                             | 0(4) – 20 mA, 0(2) – 10 V |
|                                         | REtrans2W, 2-wire                                                             | 4 – 20 mA                 |
| REpos / digital positioner with display | REpos                                                                         |                           |
|                                         | Input                                                                         | 0(4) – 20 mA, 0(2) – 10 V |
|                                         | Output                                                                        | 0(4) – 20 mA, 0 – (2)10 V |
| REpos with bus system CAN-Open          |                                                                               |                           |
| REpos /with Profibus DP                 |                                                                               |                           |
| Heater                                  | 12-36 V – 3W/6W, 110-230V - 3 W / 6 W                                         |                           |
| Power pack                              | Inlet: 90-264V 50/60Hz Outlet: 24VDC                                          |                           |
| Process controller                      | 1-channel PID process controller                                              |                           |
| Supplementary equipment                 | NRTL(Nationally Recognized Testing Laboratory)-Certification for USA & Canada |                           |
|                                         | Sea air resistant variant                                                     |                           |

Additional options on request

**REact**

REact 100

### Series

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REact 100E-030

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REact 100E-045

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REact 100E-090

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REact 100 DC

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Electric actuator for control and shut/off valves with brushless 24 VDC motor technology (REdrive)

- 3-point step control
- Separate force and limit switches for both directions
- Four speed settings as standard | DC
- Low height due to adaption spindle
- Protection rating IP 65
- Valve position indicator
- Manual hand wheel
- Electrical connections via plug/socket connectors
- CE marking

### Options:

- Power pack, input: 90-264 V 50/60 Hz | DC
- Heater
- Speeds individually pre-settable | DC
- Potentiometer
- Position indicator, 2 or 3-wire
- REpos positioner with display
- Bus system (Proibus DP, CANopen)
- Process controller integrated in cover
- Hydraulic system for fail-safe control

## Technical data

|                           |                                    |           |          |              |          |           |          |
|---------------------------|------------------------------------|-----------|----------|--------------|----------|-----------|----------|
| Type                      | React 100 E                        |           |          | REact 100 DC |          |           |          |
| Operating force           | 10 kN                              |           |          |              |          |           |          |
| Stroke                    | max. 80 mm                         |           |          |              |          |           |          |
| Speed                     | 0,3 mm/s                           | 0,45 mm/s | 0,9 mm/s | 0,2 mm/s     | 0,3 mm/s | 0,45 mm/s | 0,9 mm/s |
| Power draw                | 27 VA                              | 46 VA     | 81 VA    | 18 W         | 21 W     | 28 W      | 41 W     |
| Motor voltage             | 24 VAC, 115 V, 230 V, 50/60 Hz     |           |          | 24 VDC       |          |           |          |
| Isolation class           | B                                  |           |          |              |          |           |          |
| Motor rating standard     | S1 100%                            | S1 100%   | S3 50%   | S1 100%      |          |           |          |
| Force switches            | 2, directly wired                  |           |          |              |          |           |          |
| Limit switches            | 2, directly wired                  |           |          |              |          |           |          |
| Additional limit switches | 2, rating 4 A, 250 V               |           |          |              |          |           |          |
| Protection rating         | IP 65, DIN EN 60529                |           |          |              |          |           |          |
| Ambient temperature       | -20 °C bis +70 °C*                 |           |          |              |          |           |          |
| Mounting position         | Any, except upside down            |           |          |              |          |           |          |
| Gear lubricant            | Divinol Fett Central, NIGI grade 0 |           |          |              |          |           |          |
| Cable glands              | 4 x M 20                           |           |          |              |          |           |          |
| Weight                    | 6,7 kg                             |           |          |              |          |           |          |

\*If you use the power supply (NG2450) the max. ambient temperature is -10°C till +60°C

## Optional accessories

|                                         |                                                                                                            |                                                        |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| Potentiometer                           | max. 2                                                                                                     | 1 kΩ, 2 kΩ, 5 kΩ                                       |
| Position indicator                      | REtrans4W, 3-Leiter<br>REtrans2W, 2-Leiter                                                                 | 0(4) – 20 mA, 0(2) – 10 V<br>4 – 20 mA                 |
| REpos / digital positioner with display | REpos<br>Input<br>Output                                                                                   | 0(4) – 20 mA, 0(2) – 10 V<br>0(4) – 20 mA, 0(2) – 10 V |
| REpos with bus system CAN-Open          |                                                                                                            |                                                        |
| REpos /with Profibus DP                 |                                                                                                            |                                                        |
| Heater                                  | 12-36 V – 3W/6W, 110-230V - 3 W / 6 W                                                                      |                                                        |
| Power pack                              | Inlet: 90-264V 50/60Hz Outlet: 24VDC                                                                       |                                                        |
| Process controller                      | 1-channel PID process controller                                                                           |                                                        |
| Supplementary equipment                 | NRTL(Nationally Recognized Testing Laboratory)-Certification for USA & Canada<br>Sea air resistant variant |                                                        |

Additional options on request



REactDC-PoP

## Series

### REact 30DC-PoP

Electric 3kN actuator for control valves with emergency power supply REepac03

#### Characteristics REact 30DC PoP

- 24 V BLDC Motor technology
- Advanced motor electronic REDrive<sup>®</sup>CU
- 3-point step operation
- Separate force and limit switches
- Four speed settings as standard
- Protection rating IP 65, NEMA 4X
- Valve position indicator
- Manual hand wheel
- Electrical connections via plug/socket connectors

#### Characteristics REepac03

- SuperCap technology
- maintenance free
- backup speed:
  - 1.1mm/sec. REact30 DC PoP low version
  - 3.1mm/sec. REact30 DC PoP high version
- max travel range: 40mm
- actuator spindle retracted or extended selectable via DIP switch
- life cycle: > 500 000 Cycles
- charging time : 60 sec/ max charge
- power supply: 24Vdc/ 4A
- degree of protection: IP65
- ambient temperature -20°C upto 70°C

#### Options:

- Power pack input: 90-264 V 50/60 Hz  
Out 24V dc
- anti condensation heater
- Potentiometer
- Position indicator, 2 or 3-wire
- Positioner with display
- Bus system (Proibus DP, CAN open)
- NRTL-Certification for USA & Canada
- Sea air resistant variant

## Technical data

|                           |                                  |           |           |           |
|---------------------------|----------------------------------|-----------|-----------|-----------|
| Type                      | REact 30DC-PoP                   |           |           |           |
| Operating force           | 2,8 kN                           |           |           |           |
| Closing force             | 3,0 kN                           |           |           |           |
| Stroke                    | max. 40 mm                       |           |           |           |
| Speed low type            | 0,2 mm/s                         | 0,28 mm/s | 0,42 mm/s | 0,84 mm/s |
| Speed high type           | 0,6 mm/s                         | 0,74 mm/s | 1,12 mm/s | 2,24 mm/s |
| Power draw low/high       | 9 / 26 W                         | 10 / 33 W | 13 / 43 W | 21 / 48 W |
| Motor voltage             | 24 VDC                           |           |           |           |
| Isolation class           | B                                |           |           |           |
| Motor rating standard     | SI- 100%                         |           |           |           |
| Force switches            | 2, directly wired                |           |           |           |
| Wegschalter               | 2, directly wired                |           |           |           |
| Additional limit switches | 2, rating 4 A, 250 V             |           |           |           |
| Protection rating         | IP 65, DIN VDE 0470 / NEMA 4X    |           |           |           |
| Ambient temperature       | -20°C...70°C*                    |           |           |           |
| Mounting position         | any, except upside down          |           |           |           |
| Gear lubricant            | Divinol Fett F 14 EP, NLGI grade |           |           |           |
| Cable glands              | 4 x M 20                         |           |           |           |
| Weight                    | 4,5 kg                           |           |           |           |

\*If you use the power supply (NG2450) the max. ambient temperature is -10°C till +60°C

## Optional accessories

|                                 |                                            |                                                     |
|---------------------------------|--------------------------------------------|-----------------------------------------------------|
| Potentiometer                   | Max. 2                                     | 1 kΩ, 5 kΩ, 10 kΩ                                   |
| Position indicator              | REtrans4W, 3-Leiter<br>REtrans2W, 2-Leiter | 0(4) – 20 mA, (0)2...10 V<br>0(4) – 20 mA, 2...10 V |
| Digital positioner with display | REpos<br>input<br>output                   | (0)4...20mA,(0)2...10V<br>(0)4...20mA,(0)2 10V      |
| CAN-Bussystem<br>CANopen        |                                            |                                                     |
| REpos with Profibus DP          |                                            |                                                     |
| Heater                          | 12-36 V – 3W/6W, 110-230V - 3 W / 6 W      |                                                     |
| Power pack                      | Input: 90-264V 50/60Hz Output:24VDC        |                                                     |
| NRTL-Certification              |                                            |                                                     |

Additional options on request



### Series

|          |       |
|----------|-------|
| REacTron | 30DC  |
| REacTron | 60DC  |
| REacTron | 100DC |

Electric actuator for control valves with integrated single loop PID controller

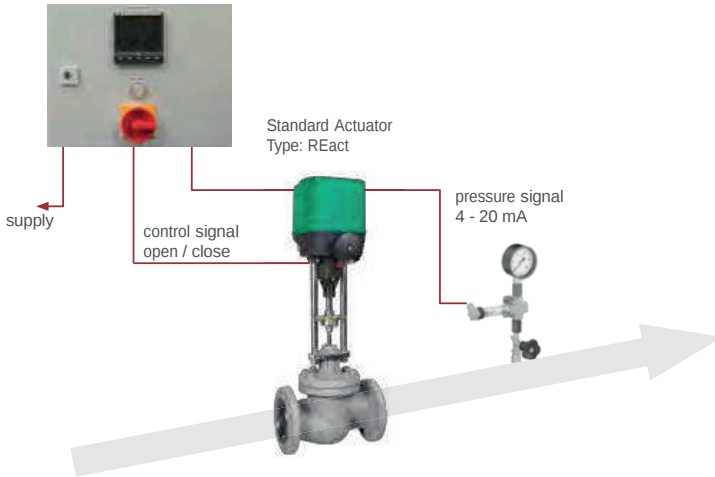
- single loop PID controller type : Qube
- power supply: 24V dc
- Input: mA, V, PT100, TC (free selectable)
- Output: 3-point step
- degree of protection: IP65
- ambient temperature : 0-50°C
- power unit : In 115/230Vac out 24Vdc
- prewired connectors

Options (optional domestic equipment):

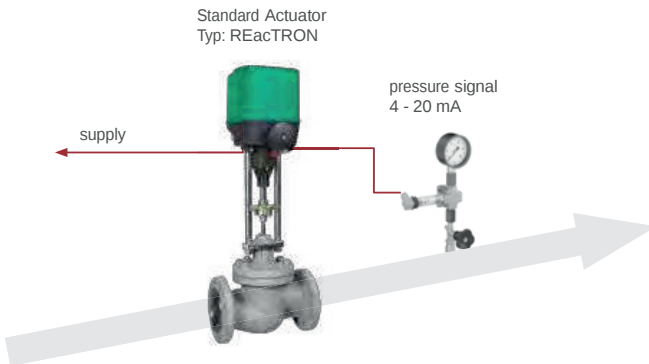
- interface RS485 Modbus (on request)
- RElog (starting up device for emergency closing unit)
- approval: NRTL

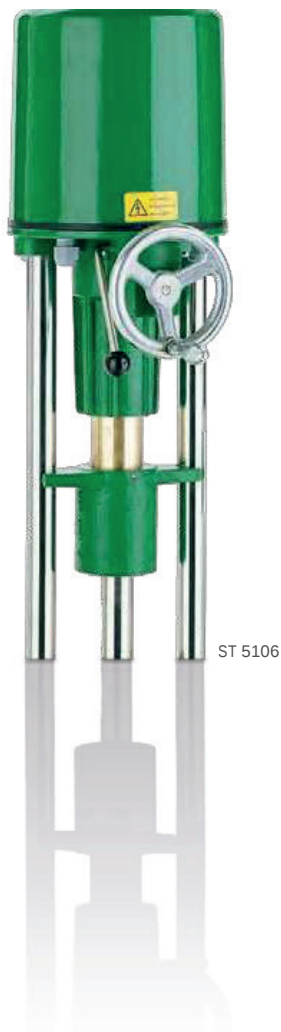
### Application

Standard solution for a single loop PID process control



Low cost solution REacTron -> reduced material and costs





ST 5106

### Series

ST 5106-20

ST 5106-60

ST 5106-61

ST 5116-20

ST 5116-60

Electric actuator for control and on / off valves

- Control via 3 point step
- Open and closed limit switches
- 2 freely selectable limit switches (only ST 5106)
- Handwheel
- Protection rating IP 65
- Mechanical stroke indicator

### Options:

- Anti condensation heater
- Feedback potentiometer
- Feedback transducer 2 or 3-Wire
- Digital valve positioner
- Bus system (Proibus DP, CANopen)
- Hydraulic fail closed unit
- 3 Phase hybrid motor starter

## Technical data

| Type ST 5106          | -20                                                                             | -60       | -61      |
|-----------------------|---------------------------------------------------------------------------------|-----------|----------|
| Operating force       | 15 kN                                                                           |           |          |
| Stroke                | Max. 80 mm                                                                      |           |          |
| Speed                 | 0.3 mm/s                                                                        | 0.9 mm/s  | 1.8 mm/s |
| Power consumption     | 180 VA                                                                          | 180 VA    | 180 VA   |
| Brake approx.         | —                                                                               | —         | 30 VA    |
| Motor voltage         | 3 ~ 400 V 50 / 60 Hz* / 1 ~ 230 V 50 / 60 Hz* / 115 V                           |           |          |
| Type ST 5116          | -20                                                                             | -60       |          |
| Operating force       | 20 kN                                                                           |           |          |
| Stroke                | Max. 80 mm                                                                      |           |          |
| Speed                 | 0.3 mm/s                                                                        | 0.85 mm/s |          |
| Power consumption     | 180 VA                                                                          |           |          |
| Brake approx.         | —                                                                               | —         |          |
| Motor voltage         | 3 ~ 400 V 50 / 60 Hz*                                                           |           |          |
| Motor rating standard | Switching frequency short term 2 pro sec.<br>50 % ED / 50 HZ<br>25 % ED / 60 HZ |           |          |
| Force switches        | 2 Limit switches<br>Contact rating max. 6 A, 250 V                              |           |          |
| Protection rating     | IP 55, DIN VDE 0470                                                             |           |          |
| Ambient temperature   | -20 °C to +60 °C                                                                |           |          |
| Mounting position     | Any, except upside down                                                         |           |          |
| Cable glands          | 3 x M 20                                                                        |           |          |
| Weight                | 22 kg                                                                           |           |          |

\*For operation at 60 Hz the speed and power consumption increased by 20 %

## Options

|                                          |                                                         |                                                       |
|------------------------------------------|---------------------------------------------------------|-------------------------------------------------------|
| Limit switches                           | 2 freely selectable<br>Contact rating max. 6.5 A, 250 V |                                                       |
| Feedback potentiometer or Tandem version | Max. 2                                                  | 1 kΩ, 5 kΩ, 10 kΩ                                     |
| Feedback transducer                      | MU 4522, 3-Wire<br>MU 4524, 2-Wire                      | 0(4) – 20 mA<br>0(4) – 20 mA                          |
| Digital valve positioner                 | RE 3447 + Hybrid-Starter**<br>Input<br>Output           | 0(4) – 20 mA respectively 0(2) – 10 V<br>0(4) – 20 mA |
| CAN-Bus system<br>CANopen                | BS 4591                                                 |                                                       |
| Profibus DP                              | BS 4581                                                 |                                                       |
| Anti condensation heater                 | 24 V, 115 V, 230 V, 8 W                                 |                                                       |

\*\* Hybrid-Starter  
3 phase hybrid motor starter with electronic reversing contactor  
(needed for three phase actuators in combination with digital valve positioner RE 3447)

Other options available on request



### Series

|         |                     |
|---------|---------------------|
| ST 6115 | 120 cm <sup>2</sup> |
| ST 6135 | 280 cm <sup>2</sup> |
| ST 6160 | 530 cm <sup>2</sup> |

### Special applications

|                    |
|--------------------|
| ST 6135.B6-__-C5-M |
| ST 6135.B6-__-OX   |
| ST 6160.A6-__-C5-M |
| ST 6160.A6-__-OX   |

### Pneumatic actuators for control and on/off valves

- Approved by German Technical Inspectorate (TÜV) as safety functional device for steam and water in heating systems.
- Spring closed or open
- Max. stroke 60 mm
- Max. air supply 6 bar
- Max. actuating force 10 kN
- Direct mounting of positioner with internal air supply
- Special applications possible
  - C5-M Marine air resistant
  - OX For oxygen as operating medium

## Technical data

| Type                     | ST 6115<br>.A6-3S    |                    | ST 6135<br>.B6-2G  |                    | ST 6160<br>.A6-6G  | ST 6160<br>.C6-3G  | .C6-7G             |
|--------------------------|----------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Diaphragm area           | 120 cm²              |                    | 280 cm²            |                    | 530 cm²            | 530 cm²            |                    |
| Spring range (bar)       | 0.9 ... 2.0          | 0.8 ... 2.4        | 0.2 ... 1.0        | 0.8 ... 3.0        | 0.8 ... 2.8        | 0.3 ... 1.3        | 0.7 ... 3.0        |
| Stroke                   | 20 mm                | 25 mm              | 35 mm              |                    | 40 mm              | 60 mm*             |                    |
| Operating pressure (bar) | Min. 2.2<br>Max. 6   | Min. 2.6<br>Max. 6 | Min. 1.2<br>Max. 6 | Min. 3.2<br>Max. 6 | Min. 3.0<br>Max. 6 | Min. 1.5<br>Max. 6 | Min. 3.2<br>Max. 6 |
| Actuator volume          | 0.4 L                |                    | 1.7 L              |                    | 2.8 L              | 3.6 L              |                    |
| Ambient temperature      | -40 °C to +80 °C     |                    |                    |                    |                    | -20 °C to +80 °C   |                    |
| Coating                  | Acrylic              |                    |                    |                    |                    |                    |                    |
| Weight                   | 3 kg                 |                    | 5 kg               |                    | 12.5 kg            | 14 kg              |                    |
| Connection               | ¼" NPT Female thread |                    |                    |                    |                    |                    |                    |
| Mounting position        | Any                  |                    |                    |                    |                    |                    |                    |

\*50 mm for direction of action « open »; spring range reduced

## Options

|                      |                                                                                                                                                                                                                                         |                |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| Handwheel            | Mounted on top                                                                                                                                                                                                                          |                |
| Limit switches       | Contact rating max. 6 A, 400 V<br>Protection IP 65                                                                                                                                                                                      |                |
| 3 / 2-solenoid valve | 24 V DC, 24 V, 115 V, 230 V / 50 / 60 Hz, EEx<br>The safety function according to DIN EN 14597:2005-12 is only possible in combination with a solenoid valve which fulfills the requirements of the Mounted on top mentioned directive. |                |
| Positioners          |                                                                                                                                                                                                                                         |                |
| SRP 981              | 0.2 ... 1.0 bar                                                                                                                                                                                                                         | max. 6 bar     |
| SRI 990              | 4 – 20 mA                                                                                                                                                                                                                               | 2-Wire         |
| SR 6136 (Sipart)     | 4 – 20 mA                                                                                                                                                                                                                               | 2 / 3 / 4-Wire |
| SR TZIDC             | 4 – 20 mA                                                                                                                                                                                                                               | 2-Wire         |
| SR 1000 L            | 4 – 20 mA                                                                                                                                                                                                                               | 2-Wire         |
| SR 3300              | 4 – 20 mA                                                                                                                                                                                                                               | 2-Wire         |

Other options available on request

|                |                                                                                                                                                                                                                                                                           |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Important note | <p>The actuator needs in conjunction with the approval DIN EN 14597:2012-09 for failure free service, dry oil free instrument air</p> <ul style="list-style-type: none"> <li>• Particle size 30 µm</li> <li>• Pressure dewpoint 20 K under ambient temperature</li> </ul> |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



### Series

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ST 6175.B6-\_\_1000 cm<sup>2</sup>

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ST 6175.C6-\_\_1000 cm<sup>2</sup>

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Pneumatic actuators for control  
and on/ off valves

- Actuating force max. 40 kN
- Spring closed or open
- Stroke max. 60 mm / 100mm
- Max air supply 6 bar

## Technical data

| Type                                           | .B6-2S                     | .B6-3D             | .B6-5D             | .B6-7D             | .C6-3S                   | .C6-3D             | .C6-5D             | .C6-7D             |
|------------------------------------------------|----------------------------|--------------------|--------------------|--------------------|--------------------------|--------------------|--------------------|--------------------|
| Diaphragm area                                 | 1000 cm <sup>2</sup>       |                    |                    |                    |                          |                    |                    |                    |
| Spring range (bar)                             | 0.3 ... 0.9                | 0.7 ... 2.1        | 1.2 ... 3.4        | 1.6 ... 4.7        | 0.5 ... 1.4              | 0.8 ... 2.1        | 1.4 ... 3.4        | 1.9 ... 4.7        |
| Actuating force spring closed, closed position | 3 kN                       | 7 kN               | 12 kN              | 16 kN              | 5 kN                     | 8 kN               | 14 kN              | 19 kN              |
| Actuating force spring open, open position     | 40 kN                      | 32 kN              | 21 kN              | 10 kN              | 38 kN                    | 32 kN              | 21 kN              | 10 kN              |
| Stroke                                         | 60 mm                      |                    |                    |                    | 100 mm                   |                    |                    |                    |
| Operating pressure (bar)                       | Min. 1.1<br>Max. 6         | Min. 2.3<br>Max. 6 | Min. 3.6<br>Max. 6 | Min. 4.9<br>Max. 6 | Min. 1.6<br>Max. 6       | Min. 2.3<br>Max. 6 | Min. 3.6<br>Max. 6 | Min. 4.9<br>Max. 6 |
| Actuator volume                                | 0.8 ... 5.8 L <sub>N</sub> |                    |                    |                    | 0.8 ... 9 L <sub>N</sub> |                    |                    |                    |
| Ambient temperature                            | -40 °C to +80 °C           |                    |                    |                    |                          |                    |                    |                    |
| Coating                                        | Acrylic                    |                    |                    |                    |                          |                    |                    |                    |
| Weight                                         | 35 kg                      | 37 kg              | 39 kg              | 41 kg              | 45 kg                    | 48 kg              | 54 kg              | 60 kg              |
| Connection                                     | ¾" NPT Female thread       |                    |                    |                    |                          |                    |                    |                    |
| Mounting position                              | Any                        |                    |                    |                    |                          |                    |                    |                    |

## Options

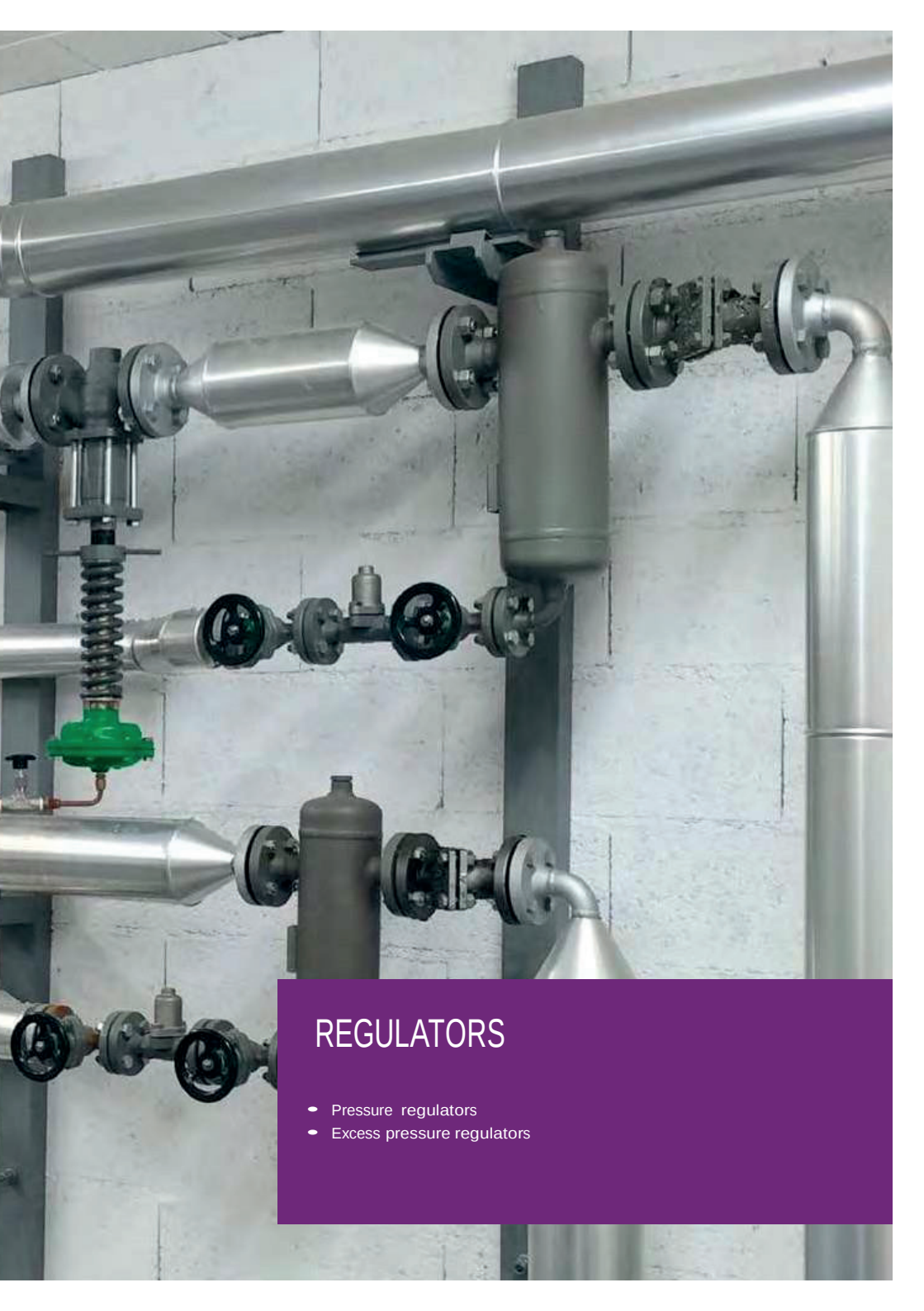
|                          |                                                                                                                                                                                        |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Handwheel                | Mounted on top                                                                                                                                                                         |
| Limit switches           | Contact rating max. 6 A, 400 V<br>Protection IP 65                                                                                                                                     |
| 3 / 2 way solenoid valve | 24 V DC, 24 V, 115 V, 230 V 50 / 60 Hz, EEx                                                                                                                                            |
| Solenoid valve           | The safety function according to DIN EN 14597:2005-12 is only possible in combination with a solenoid valve which fulfills the requirements of the Mounted on top mentioned directive. |

## Positioners

|                  |                 |                |
|------------------|-----------------|----------------|
| SRP 981          | 0.2 ... 1.0 bar | max. 6 bar     |
| SRI 990          | 4 – 20 mA       | 2-Wire         |
| SR 6136 (Sipart) | 4 – 20 mA       | 2 / 3 / 4-Wire |
| SR TZIDC         | 4 – 20 mA       | 2-Wire         |
| SR 1000 L        | 4 – 20 mA       | 2-Wire         |
| SR 3300          | 4 – 20 mA       | 2-Wire         |

Other options available on request

|                |                                                                                                                                                                                                                                                                             |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Important note | <p>The actuator needs in conjunction with the approval DIN EN 14597:2012-09 for failure free service, dry oil free instrument air</p> <ul style="list-style-type: none"> <li>• Particle size 30 µm</li> <li>• Pressure dewpoint +20 °C under ambient temperature</li> </ul> |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



## REGULATORS

- Pressure regulators
- Excess pressure regulators



DM 613

### Series

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DM 613

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Pressure reducing regulators for controlling the downstream pressure  $p_2$ , applicable for liquids, steam and gases up to 130 °C. The regulator closes when the downstream pressure rises.

- Self-operated proportional regulator without auxiliary energy
- Globe valve with flanges single seat unbalanced / single seat balanced
- Set points from 0,02 bar...10 bar
- External control connection



DM 652



DM 664

### Series

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DM 652

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up to DN 50

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DM 664

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up to DN 65-100

Pressure reducing regulators for controlling the downstream pressure  $p_2$ , applicable for liquids, steam and gases up to 190 °C. The regulator closes when the downstream pressure rises.

- Self-operated proportional regulator without auxiliary energy
- Globe valve with langes single seat unbalanced / single seat balanced
- Set points from 0,02 bar...10 bar
- External control connection
- Easy installation
- DM 664 only up to 130 °C (not only steam)



### Series

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DM 604

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Pressure reducing regulators for controlling the downstream pressure  $p_2$ , applicable for liquids, steam and gases up to 250 °C. The regulator closes when the downstream pressure rises.

- Self-operated proportional regulator without auxiliary energy
- Globe valve with flanges single seat unbalanced / single seat balanced
- Set points from 0,02 bar...10 bar
- External control connection



### Series

UV 4.1

Pressure reducing regulators for controlling the downstream pressure  $p_2$ , applicable for liquids, steam and gases up to + 200 °C. The regulator closes when the downstream pressure rises.

- Self-operated proportional regulator without auxiliary energy
- Globe valve with flanges single seat unbalanced / single seat balanced
- Set points from 0,02 bar...10 bar
- External control connection
- Easy installation

UV 4.1



A photograph of industrial equipment, specifically manual stop valves and strainers. The valves have blue handwheels and are arranged in a row. The strainers have brass-colored bodies and are also arranged in a row. A green cap is visible on the left side of the image.

# MANUAL STOP VALVES WITH BELLOWS SEAL STRAINERS





## SENSORS

- RTD Temperature probes
- Level sensors
- Electronic pressure-measuring station
- Power supply



WT 1104



WT 1102

### Series

#### Screw in RTD Temperature probes

|            |                    |
|------------|--------------------|
| WT 1102-1  | 1 x PT100 / 160 mm |
| WT 1102-2  | 1 x PT100 / 250 mm |
| WT 1102-3  | 2 x PT100 / 160 mm |
| WT 1102-4  | 2 x PT100 / 250mm  |
| WT 1102-MU | 4 – 20 mA          |

#### Push in RTD Temperature probes for air measurement

|            |                        |
|------------|------------------------|
| WT 1104-1  | 1 x PT100 / to 400 mm  |
| WT 1104-2  | 1 x PT100 / to 400 mm  |
| WT 1104-4  | 2 x PT100 / to 1000 mm |
| WT 1104-MU | 4 – 20 mA              |

### Screw in RTD Temperature probes

Screw in RTD Temperature probes for standard applications are typically used for measuring temperatures of liquids or gases in pipelines or containers. They offer fast response time and come complete with stainless steel thermowell.

|                       |                                               |                               |
|-----------------------|-----------------------------------------------|-------------------------------|
| Measuring Insert      | PT100 / temperature probe DIN EN60751 Class B |                               |
| Electrical Connection | 2-Wire                                        |                               |
| Process Connection    | Thermowell, stainless steel 1.4571            |                               |
| Temperature           | -40 °C to +400 °C                             |                               |
| Pressure              | PN max. 40 bar static                         |                               |
| Thread                | G ½"                                          | 1.4571                        |
| Connection Head       | Protection                                    | IP 54                         |
|                       | Form                                          | B / Aluminium                 |
|                       | Temperature                                   | -40 °C to +85 °C (WT 1102-MU) |
| Design<br>WT 1102-MU  | 2-Wire                                        | Transducer                    |
|                       | Output                                        | 4 – 20 mA                     |
|                       | Please state required measuring range.        |                               |

### Push in RTD Temperature probes for air measurement

With perforated brass thermowell and sliding stop lange

|                       |                                               |                               |
|-----------------------|-----------------------------------------------|-------------------------------|
| Measuring Insert      | PT100 / Temperature probe DIN EN60751 Class B |                               |
| Electrical Connection | 2-Wire                                        |                               |
| Process Connection    | Thermowell, brass                             |                               |
| Temperature           | -40 °C to +400 °C                             |                               |
| Pressure              | PN max. 40 bar static                         |                               |
| Thread                | G ½"                                          | 1.4571                        |
| Connection Head       | Protection                                    | IP 54                         |
|                       | Form                                          | B / Aluminium                 |
|                       | Temperature                                   | -40 °C to +85 °C (WT 1104-MU) |
| Design<br>WT 1104-MU  | 2-Wire                                        | Transducer                    |
|                       | Output                                        | 4 – 20 mA                     |
|                       | Please state required measuring range.        |                               |



NI 1341



NI 1342

## Series

### NI 1341

- For thermal and refrigeration applications

### NI 1342

- Shortened design
- For thermal and refrigeration applications

## Standard version

- TÜV component tested WR. 12-416
- Electronic measurement system: Analogue technology, suitable for nuclear facilities
- Version available with shock, vibration or earthquake tests on request.
- Measuring range from 150 to 4000 mm
- Good temperature stability
- Excellent measuring precision
- LED trend display
- Connection thread G1

## Technical data

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                         |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| Nominal pressure  | PN 40 / PN 100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                         |
| Temp. max.        | +238 °C (Medium)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | PN 40                   |
|                   | +280 °C (Medium)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | PN 100                  |
| Pressure max.     | 32 bar at +238 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | (PN 40)                 |
|                   | 40 bar at +20 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | (PN 40)                 |
|                   | 63 bar at +280 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | (PN 100)                |
|                   | 100 bar at +20 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | (PN 100)                |
| Temperature range |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                         |
| NI 1341           | -60 °C to +280 °C (Medium)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                         |
| NI 1342           | -20 °C to +70 °C (Medium)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                         |
| Materials         | Wet parts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Stainless steel 1.4541  |
|                   | Housing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Aluminium AlMgSi0, 5F25 |
|                   | Connector                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Polyamid PA             |
| Electrical data   | Output                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 4 – 20 mA, 3-Wire       |
|                   | Load, max.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 220 Ω                   |
|                   | Display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 10 LEDs per 10 % steps  |
|                   | Supply-voltage Standard                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 24 V DC / 100 mA        |
|                   | Supply-voltage CAN-open                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 24 V DC / 250 mA        |
|                   | Power consumption Standard                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | ca. 80 mA               |
|                   | Protection rating                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | IP 65                   |
|                   | Ambient temperature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | -20 °C to +70 °C        |
| Options           | Field bus interface                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | CAN-open                |
| Operation         | <p>The level is determined by the weight of the displacer, which is located in the medium. The weight depends on the buoyancy therefore on the specific weight and the level. The buoyancy of the displacer, depending on level and density of the liquid, is measured with a spring balance and inductively transformed in a 4 ... 20 mA signal. To be able to calibrate the level sensor, the density of the liquid must be known. If used with strongly agitated fluids it is recommended that the level sensor be installed outside the vessel, for this a reference vessel with connection flanges should be used.</p> |                         |
| Application       | <ol style="list-style-type: none"> <li>1. Level measuring with LED display per 10 % steps and remote transmission with 4-20 mA output signal</li> <li>2. Level-dependent pump regulation in combination with switch-gear SG 2411, SG 2431</li> <li>3. Continuous level control with electronic controllers RE 3452, RE 3453 RE3472 and motor valve, series MV 5000</li> </ol>                                                                                                                                                                                                                                               |                         |



### Series

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 DR 1226
 

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 DR 1226-K
 

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Electronic pressure-measuring station for use in heating and refrigeration systems, suitable for gases and liquids

- Piezoresistive
- Measuring range up to 60 barg
- Power supply 12 ... 30 V DC
- With pressure gauge
- Two-Wire system
- Protection rating IP 54

### Technical data

**Function** A piezoresistive pressure sensor produces a pressure-proportional bridge voltage. This voltage is normalised to the corresponding measuring range and is given as a 4 – 20 mA signal.

|                      |                               |
|----------------------|-------------------------------|
| Supply-voltage       | 12 ... 30 V DC                |
| Output               | 4 – 20 mA                     |
| Load                 | Max. 400 Ω                    |
| Protection rating    | IP 54 / 65                    |
| Accuracy             | Class 1                       |
| Ambient temperature  | -20 °C to + 60 °C Dimensions  |
|                      | 380 x 146 x 96 mm             |
| Compression strength | Short-time 1.3 pressure range |
| Vacuum resistance    | High-vacuum                   |
| Material             |                               |
| DR 1226              | GK-CuZn38A                    |
| DR 1226-K            | Stainless steel 1.4541        |



NG 1534

## Series

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 NG 1534
 

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### Switched mode AC/DC power supply

- Wide input range 85 ... 264 V AC  
85 ... 375 V DC
- Output: 24 V DC / 24 W
- Short-circuit-proof
- Compliance with:
  - IEC / EN60950 EN50178
  - UL / cUL60950, UL508C
- DIN top hat rail assembly
- Ambient temperature -10 °C to +70 °C
- Protection rating IP 20



## ELECTRIC COMPONENTS

- Digital controllers
- Analog controllers
- Electric switch gears



RE 3172

### Series

|               |
|---------------|
| ¼ DIN 96 x 96 |
|---------------|

|         |
|---------|
| RE 3172 |
|---------|

|         |
|---------|
| RE 3472 |
|---------|

|         |
|---------|
| RE 3672 |
|---------|

|         |
|---------|
| RE 3972 |
|---------|

#### On request

|               |                |
|---------------|----------------|
| ¼ DIN 96 x 96 | ½* DIN 48 x 96 |
|---------------|----------------|

|         |           |
|---------|-----------|
| RE 3173 | RE 3172-M |
|---------|-----------|

|         |           |
|---------|-----------|
| RE 3473 | RE 3472-M |
|---------|-----------|

|         |           |
|---------|-----------|
| RE 3673 | RE 3672-M |
|---------|-----------|

|         |           |
|---------|-----------|
| RE 3973 | RE 3972-M |
|---------|-----------|

|           |
|-----------|
| RE 3173-M |
|-----------|

|           |
|-----------|
| RE 3473-M |
|-----------|

|           |
|-----------|
| RE 3673-M |
|-----------|

|           |
|-----------|
| RE 3973-M |
|-----------|

Digital controllers with PID control RE3072/73  
free configurable as:

- 3-term-step-controller for driving electric actuators e.g. RTK actuators series ST 5100

or

- Continuous controller for driving pneumatic actuators with positioner e.g.: RTK series SR 6136 , SR 6137

#### Inputs:

- Feedback potentiometer from actuator
- External set point

#### Additional RE3073/RE3073M

- Programmer function
- Second analogue/digital output

#### On request

- Interface RS485 or Proibus DP

## Technical data

|                                               |                                                                                               |                      |                      |                                               |                      |                      |                      |                      |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------|----------------------|----------------------|-----------------------------------------------|----------------------|----------------------|----------------------|----------------------|
| Type                                          | RE 3172<br>RE 3172-M                                                                          | RE 3472<br>RE 3472-M | RE 3173<br>RE 3173-M | RE 3473<br>RE 3473-M                          | RE 3672<br>RE 3672-M | RE 3972<br>RE 3972-M | RE 3673<br>RE 3673-M | RE 3973<br>RE 3973-M |
| Input                                         | PT100                                                                                         | 0(4)–20 mA           | PT100                | 0(4)–20 mA                                    | PT100                | 0(4)–20 mA           | PT100                | 0(4)–20 mA           |
| Output                                        | 3-point step                                                                                  |                      |                      |                                               | 0(4)–20 mA           |                      |                      |                      |
| Additional outputs                            | 2 Alarm contacts<br>1 Measuring transducer SP, PV                                             |                      |                      |                                               | 3 Alarm contacts     |                      |                      |                      |
| Regulations for electrical apparatus          | Directives 73 / 23 / EEC as amended by directives 93 / 68 / EEC<br>EN61010-1:93 + A2:95       |                      |                      |                                               |                      |                      |                      |                      |
| Regulations for electromagnetic compatibility | Directives 89 / 336 / EEC as amended by directives 92 / 13 / EEC                              |                      |                      |                                               |                      |                      |                      |                      |
| Regulations for RF emissions                  | EN61000-6-3:2001 for residential environments<br>EN61000-6-4:2001 for industrial environments |                      |                      |                                               |                      |                      |                      |                      |
| Regulation for HF immunity                    | EN61000-6-2:2001 for industrial equipment and systems                                         |                      |                      |                                               |                      |                      |                      |                      |
| Power supply                                  | Standard<br>On request                                                                        |                      |                      | 100–240 V AC / 50–60 Hz<br>24 V DC / 50–60 Hz |                      |                      |                      |                      |
| Power consumption                             | Max. 3 VA                                                                                     |                      |                      |                                               |                      |                      |                      |                      |
| Protection rating                             | Rear terminal block<br>Housing<br>Front                                                       |                      |                      | IP20<br>IP00<br>IP65                          |                      |                      |                      |                      |
| E-connection                                  | Screw terminal / 1 mm²                                                                        |                      |                      |                                               |                      |                      |                      |                      |
| Housing                                       | Switchboard mounting                                                                          |                      |                      | 96 (48) x 96 x 110 mm                         |                      |                      |                      |                      |
| Ambient temperature                           | 0 °C to +50 °C                                                                                |                      |                      |                                               |                      |                      |                      |                      |
| Humidity                                      | Max. 95 % rel                                                                                 |                      |                      |                                               |                      |                      |                      |                      |
| Approvals                                     | CE, UL and cUL                                                                                |                      |                      |                                               |                      |                      |                      |                      |



### Series

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RE 3304

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RE 3304

Electronic 3-term step-controllers with  
PI-control

- For driving electric actuators
- Set point selection by manual controllers
- Indication of actual value
- Integrated power supply for transducer 24 VDC
- Switches for limiting values
- Manual and automatic operation
- Component mark  
TÜV.WRS(WR).91-355 for application in  
boiler feed controls

## Technical data

|                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                 |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| Power supply                              | 115 AC / 230 V AC ca. 10 VA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                 |
| Input resistance                          | 50 $\Omega$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                 |
| Input                                     | 4 – 20 mA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                 |
| Output as power supply for the transducer | e.g. NI 1341                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 24 V DC / 80 mA |
| Ambient temperature                       | -10 °C to +40 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 |
| Housing                                   | Plastic case 144 x 72 x 165 mm for switch board mounting                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                 |
| Controlled variable                       | Level                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 |
| Transducer                                | NI 1341 / 42                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                 |
| Set point range                           | 0 to 100 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                 |
| Sensitivity                               | Adjustable from 1 to 10 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                 |
| Proportional band                         | Adjustable from 10 to 100 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                 |
| Protection rating                         | IP20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                 |
| Operation                                 | <p>Set value and measured value are compared in a voltage comparator. The different between the two values causes switching pulses which are transmitted to the control valve via mutually interlocked contacts. Simultaneous to the circuit of the relay, proportional band-capacitors are loaded nearly linear, and a saw-tooth impulse opposed to the difference of actual value and set value. The value of this proportional band impulses its increasing and fall time, are adjustable at the adjustments Xp, Tn, Ty. Two indicator lamps show whether The regulator has reached its inal opened or closed position. Two integrated switches for limit values can be connected on demand, indicator lamps show whether the level is &gt;NW&lt;, &gt;middle level&lt;, or &gt;HW&lt;.</p> |                 |



SG 2431

### Series

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SG 2431

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#### Electronic limit switch

- Input
  - Motor voltage 0(4) – 20 mA or
  - Voltage 0(2) – 10 V
- Output
  - 2 x relays (Changer)
- Contact status indication via LED
- Actual value indication via bar graph display
- Limit value adjustment via front side pushbuttons
- Additional functions such as:
  - Hysteresis, window, On / off-delay, alarm, inverse operation
- Galvanic 3-way-isolation (up to 4 kV)

## Technical data

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                   |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Connection            | A.C. voltage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 230 V AC / 10 mA                                                                  |
| Input                 | Load independent DC Motor voltage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 0(4) – 20 mA                                                                      |
|                       | Ri                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | ca. 100 Ω                                                                         |
|                       | or DC voltage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0(2) – 10 V DC                                                                    |
|                       | Ri                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | ca. 100 kΩ                                                                        |
|                       | Temperature error                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | < 30 ppm / °C                                                                     |
|                       | Actual value indication                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | By bar graph display<br>Up to 100 % green, from 100 % yellow<br>over 110% red LED |
|                       | Status indication                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Relays A and B                                                                    |
| Directive             | MV 2004 / 108 / EG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                   |
| Low Voltage Directive | MV 2006 / 95 / EG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                   |
| Output                | 2 x relays                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                   |
|                       | Changeover contact                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | +250 V AC / max. 8 A resistive load                                               |
|                       | Contact life cycle                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 10 <sup>5</sup> Cycles (8 A)                                                      |
|                       | Mech. Life cycle                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 30 x 10 <sup>6</sup> Cycles                                                       |
| Ambient conditions    | Storage temperature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | -40 °C max. +70 °C                                                                |
|                       | Operating temperature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0 °C max. +55 °C                                                                  |
|                       | Isolation voltage:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | < 4 kV In / output<br>< 4 kV power supply                                         |
| Mounting details      | Housing for top hat rail                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                   |
|                       | Protection rating                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | IP20 Housing / IP10 Clamps                                                        |
|                       | Mounting rail fixed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | According to EN 50022-35                                                          |
|                       | Width                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 22.5 mm                                                                           |
|                       | Weight                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 160 g                                                                             |
| Operation             | <p>The limit switch SG 2431 is used to control limit values of standardized Motor voltage or voltage signals. Due to the two output relays with one potential free change over contact, two switching functions can be realized. The switching status of the operated relay is indicated by the LED display. The switching point can be adjusted by the front side push buttons and the effective relay direction by the slide switch on the side. Applications include: Threshold switching, supervisory relay, pump control, positioning element control of final signals.</p> |                                                                                   |







- DIN EN ISO-9001-2015
- Druckgeräterichtlinien (PED) 97 / 23EG  
Modul H / H1, CE0036
- DIN CERTCO
- TA-Luft
- Vd-TÜV Wasserstand 100
- DVGW
- ATEX Konformitätserklärung, 94 / 9 / EG
- TR TS (EAC)
- LR- Lloyd's Register
- DNV-GL
- BV-Bureau Veritas
- RINA-Registro Italiano Navale
- ABS-American Bureau of Shipping
- China Compulsory Product Certificate (CCC)



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