

Explosion-protected hydraulic products for industrial and mobile applications

Product overview



Recognition and correct classification of hazards

Legal directives like 2014/34/EU (ATEX) in Europe or NEC/CEC in the USA and Canada as well as additional national and international regulations regulate the intended use of operating equipment in potentially explosive atmospheres. The place of use and the resulting assignment of zones as well as the type of protection and the equipment protection class exactly define the applicable requirements for components, power units and equipment. Rexroth offers a wide range of certified products for hydraulics and electric drive technology.



Classification of operating equipment on the example of the ATEX directive

Zone classification:

According to ATEX, a risk assessment by the machine end-user or an external institution is the first step. In this respect, standards distinguish between potentially explosive gas atmospheres – e.g. due to solvents and other process vapors – and potentially explosive dust atmospheres, e.g. in the food and wood-processing industries. The frequency of occurrence of these potentially explosive atmospheres defines the classification in standardized zones defining the level of protection. Each zone is assigned a device category.

Device group and category

In accordance with the regulations of the ATEX directive, our products are classified in device groups and categories according to their intended use.

For underground operations (mining) and connected facilities above ground, device group I is assigned. All other potentially explosive atmospheres are assigned to device group II. In addition to the device groups according to the ATEX directive, the equipment is assigned to a specific device category according to EN 60079 standards for their intended area of application.

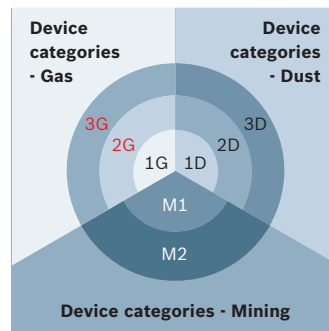
Device category 1 (1G/1D) – Very high level of protection

Device category 2 (2G/2D) – High level of protection

Device category 3 (3G/3D) – Standard level of protection

Types of protection

Technical measures ensure that no ignition source can occur in potentially explosive atmospheres in accordance with the assigned group. There are several technical options to achieve explosion protection of electrical equipment. ATEX defines types of protection like flameproof enclosures, overpressure enclosures, intrinsic safety or encapsulation protection and assigns them to the field of application of the zone.



◀ Rexroth offers a wide range of certified products for different hazard zones and device categories.

Potentially explosive gas atmosphere	Frequency	Device group	Device category	Field of application	Level of protection
Zone 0	permanently, frequently, long-term	II	1G	Gases, vapors, mist	Ga very high level of protection
Zone 1	occasionally	II	2G	Gases, vapors, mist	Ga high level of protection
Zone 2	rarely, short-time, in case of malfunction	II	3G	Gases, vapors, mist	Gc standard level of protection

Potentially explosive dust atmosphere	Frequency	Device group	Device category	Field of application	Level of protection
Zone 20	permanently, frequently, long-term	II	1D	Dusts	Da very high level of protection
Zone 21	occasionally	II	2D	Dusts	Db high level of protection
Zone 22	rarely, short-time, in case of malfunction	II	3D	Dusts	Dc standard level of protection

Potentially explosive mining atmosphere	Frequency	Device group	Device category	Field of application	Level of protection
Mining	permanently	I	M1	Methane, carbon dust	Ma very high level of protection
Mining	frequently	I	M2	Methane, carbon dust	Mb high level of protection

Temperature classes and limits

The ignition temperature of a flammable gas or fluid is the lowest temperature at which ignition of the mixture of gas and air or vapor and air occurs. Respectively, the maximum surface temperature of operating equipment must always be below the ignition temperature of the surrounding atmosphere. The maximum admissible surface temperature of operating equipment in device group I depends on the deposition of carbon dust (with/without carbon dust deposition).

For electrical operating equipment in device group II in potentially explosive gas and vapor atmospheres, temperature classes T1 to T6 have been introduced. The temperature class is assigned to each operating equipment according to its maximum surface temperature. For electrical operating equipment in device group II in potentially explosive dust atmospheres, the maximum surface temperature is specified as temperature value [°C]. The maximum surface temperature of the operating equipment must not exceed the ignition temperature of a dust layer or a cloud of flammable dust.

Operating equipment of a higher temperature class can also be used for applications with a lower temperature class – similarly to equipment with a high level of protection, which can also be used in areas that require lower levels of protection, e.g. device category 1 in areas of device categories 2 and 3.

Non-electric equipment

Non-electric equipment is also subject to the requirements of the explosion protection directive. For these product series, Rexroth has carried out and documented an assessment of the risk of ignition according to EN 13463-1 as well as a risk assessment according to EN ISO 14121-1 and respectively complies with the general health and safety requirements according to Explosion Protection Directive 2014/34/EU.

Conformity assessment procedure

Depending on the level of protection of the device, different processes for verification of the properties of operating equipment are required: In case of stricter requirements, type examination has to be carried out by external institutions while conformity assessment by the manufacturer is sufficient for lower requirements. Rexroth carries out these assessments strictly in accordance with the requirements.



Categories acc. to 2014/34/EU	Type of product	Procedure	Storage of documents
IM1 II1G II1D	electrically and non-electrically	EG type examination by notified body	By Rexroth and notified body with confirmation
IM2 II2G II2D	electrically	EG type examination by notified body	By Rexroth and notified body with confirmation
IM2 II2G II2D	non-electrically	Conformity assessment by manufacturer	By Rexroth and notified body
II3G II3D	electrically and non-electrically	Conformity assessment by manufacturer	Rexroth

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Products/type	Data sheet	Area of application in accordance with Explosion Protection Directive 2014/34/EU									IECEX	Certification
		I M1	I M2	Zone 0 II 1G	Zone 20 II 1D	Zone 1 II 2G	Zone 21 II 2D	Zone 2 II 3G	Zone 22 II 3D			
Cylinders												
CDH2...XC	17335-X					XC	XC				-	
CSH2...XE	17335-X							XE	XE		-	
CGH2...XC	17335-X					XC	XC				-	
Directional seat valves												
SE 6 ...XD	22047-XD		XD			XD					✓	
SE 6 ...XM; SE 6 ...XH	22047-XH		XM			XH					✓	
SED 6 ...XE	22049-XE					XE					✓	
SEW 6 ...XE	22058-XE					XE					✓	
SEW 10 ...XE	22075-XE					XE					✓	
SED 6 ...XN	22049-XN							XN	XN		-	
SED 10 ...XN	22045-XN							XN	XN		-	
SED 6 ...VE1	22049-VE1										-	FM NEC505: Class 1, Zone 1
Directional spool valves												
WMM 6 ...XC	22280-XC		XC			XC	XC	XC	XC		-	
WP 6 ...XC; WH 6 ...XC	22282-XC		XC			XC	XC	XC	XC		-	
WE 6 ...XM; WE 6 ...XH	23177-XH		XM			XH					✓	
WE 6 ...XN	23178-XN							XN	XN		-	
WE 6 ...XE	23178-XE					XE					✓	
WE 6 ...XD	23178-XD		XD			XD					✓	
WE 6 ...VE1	23178-VE1										-	FM NEC505 Class I, Zone 1
WE 6 ...VP1	23178-VP1										-	FM NEC500 and CEC Annex J: Class I, Division 1, Groups B, C, D T4 NEC502 and CEC Section 18: Class II/III, Division 1 Groups E, F, G T4
H-4WEH ...XE	24751-XE					XE					✓	
H-4WEH ...XD	24751-XD		XD			XD					✓	
H-4WEH ...VP1	24751-VP1										-	FM NEC500 and CEC Annex J: Class I, Division 1, Groups B, C, D T4 NEC502 and CEC Section 18: Class II/III, Division 1 Groups E, F, G T4
Pressure valves												
DR 6 DP...XC; ZDR 6 D...XC	26564-XC		XC			XC						
DBDH ...XC	25010-XC		XC			XC	XC					
DB ...XC	25802-XC		XC			XC	XC					
Flow control valves												
Z2FS 6 ...	27506-XC		XC			XC	XC					
Proportional directional valves												
4WRA 6 ...XE	29055-XE					XE					✓	
4WRZ ...XE	29115-XE					XE					✓	
Proportional pressure valves												
3DREP 6 ...XE	29184-XE					XE					✓	
DBET ...XE	29162-XE					XE	XE				-	
Directional servo valves												
4WS2EM 10 ...XD	29583-XD					XD					✓	
4WS2EM 10 ...XD5	29583-XD5					XD					✓	KCs Ex d IIB T4 Gb
4WS2EM 10 ...XD6	29583-XD6					XD					✓	TS Ex d IIB T4 Gb
4WS2EM 10 ...XH	29583-XH		XH								-	
4WS2EM 10 ...VH1	29583-VH1										-	FM NEC505: IS Class I, Zone 0, AEx ia IIC T4 / NI Class I, Zone 2
Filters												
25TE0101 ... 1051	51472					XC	XC					
63FLDKN0063 ... 0250; 0130, 0150	51445					XC	XC					
Power units												
Hägglungs DUe	15420-X							X				

Products/type	Data sheet	Area of application in accordance with Explosion Protection Directive 2014/34/EU										IECEX	Certification
		I M1	I M2	Zone 0 II 1G	Zone 20 II 1D	Zone 1 II 2G	Zone 21 II 2D	Zone 2 II 3G	Zone 22 II 3D				
Axial piston pumps													
A4VSO...A	92050-01-X-B2							X					
A4CSG...A (3G); A4CSG...R (2G)	92105-01-X-B2					X		X					
A10VSO	92711-01-X-B2							X					
Axial piston motors													
A2FM...A (3G); A2FM...R (2G)	91001-01-X-B2					X		X					
A6VLM...A (3G); A6VLM...R (2G)	91604-01-X-B2					X		X					
Radial piston motors													
Hägglands CBM	15300-X-B0		X			X	X						
Hägglands CB	15301-X-B0		X			X	X						
Hägglands CBP	15301-X-B0		X			X	X						
Hägglands CA	15305-X-B0		X			X	X						
Hägglands VI	15310-X-B0		X			X	X						

Cylinders

CDH2...XC, CSH2...XE



- ▶ Series H2
- ▶ Component series 3X
- ▶ Nominal pressure 250 bar [25 MPa]

Features

- ▶ Standards: DIN 24333, ISO 6022
- ▶ 6 types of mounting ("CD"), 4 types of mounting ("CS")
- ▶ Piston diameter (\varnothing AL): 40 ... 320 mm
- ▶ Piston rod diameter (\varnothing MM): 25 ... 220 mm
- ▶ Stroke lengths up to 6 m

Product description

Series CDH2...XC and CSH2...XE are mill type differential cylinders for applications also under extreme conditions. They are suitable for use in potentially explosive atmospheres according to directive 2014/34/EU.

More detailed information:

Data sheet 17335-X

Technical data

Variant			CDH2...XC (without position measurement system)	CSH2...XE (with position measurement system)
Device group and category according to directive 2014/34/EU			II 2G, II 2D	II 3G, II 3D
Type of protection for II.G			c T4	Ex e T4
Type of protection for II.D			c T135°C	Ex tc T135°C
Ambient temperature range		°C	-20 ... +80	-20 ... +75
Nominal pressure	p_{nom}	bar	250	250
Piston diameter	D	mm	40 ... 320	40 ... 320
Piston rod diameter	D	mm	25 ... 220	25 ... 220
Maximum stroke length		mm	6000	3000
Derating				6.5 K/W ≥ 49 °C

Cylinders

CGH2...XC



- ▶ Series H2
- ▶ Component series 3X
- ▶ Nominal pressure 250 bar [25 MPa]

Features

- ▶ 3 types of mounting
- ▶ Piston diameter (\varnothing AL): 40 ... 320 mm
- ▶ Piston rod diameter (\varnothing MM): 25 ... 220 mm
- ▶ Stroke lengths up to 6 m

Product description

Series CGH2...XC are mill type double-acting cylinders for applications also under extreme conditions. They are suitable for use in potentially explosive atmospheres according to directive 2014/34/EU.

More detailed information:

Data sheet 17335-X

Technical data

Device group and category according to directive 2014/34/EU			II 2G, II 2D
Type of protection for II.G			c T4
Type of protection for II.D			c T135°C
Ambient temperature range		°C	-20 ... +80
Nominal pressure	p_{nom}	bar	250
Piston diameter	D	mm	40 ... 320
Piston rod diameter	D	mm	25 ... 220

Directional seat valves, direct operated, with solenoid actuation SE 6 ...XD



- ▶ Size 6
- ▶ Component series 6X
- ▶ Maximum operating pressure 420 bar
- ▶ Maximum flow 12 l/min

Features

- ▶ 3/2 or 4/2-way version
- ▶ Porting pattern according to ISO 4401-03-02-0-05 (however, without locating hole)
- ▶ Blocked port is tight
- ▶ Safe switching with longer standstill periods under pressure
- ▶ Manual override
- ▶ Type of protection "d" (flameproof enclosure)
- ▶ Valve housing and solenoid are galvanized

Product description

Valve type SE 6 ...XD is a direct operated directional seat valve with solenoid actuation. It controls the start, stop and direction of a flow. The valve is suitable for use in potentially explosive atmospheres according to directive 2014/34/EU. The valve solenoid is also certified according to IECEx.

Directional seat valves connect or isolate the connections by lowering or raising a sealing element (poppet, ball). The blocking is leakage-free.

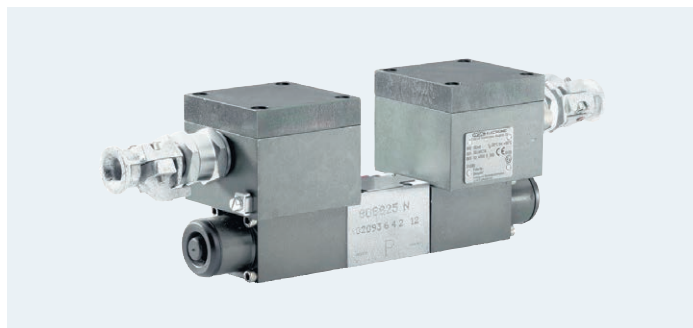
More detailed information:

Data sheet 22047-XD

Technical data

Operating pressure	p_{\max}	bar	420
Flow	$q_{V\max}$	l/min	12
Device group and category according to directive 2014/34/EU			I M2, II 2G
Type of protection valve solenoid for I M2			Ex d I Mb
Type of protection valve solenoid for II 2G			Ex d IIC T4 Gb
Standard for explosion protection			EN 60079-0 / EN 60079-1
Ambient temperature range	ϑ	°C	-20 ... +80
Hydraulic fluid temperature range	ϑ	°C	-15 ... +80

Directional spool valves, direct operated, with solenoid actuation WE 6 ...XD



- ▶ Size 6
- ▶ Component series 6X
- ▶ Maximum operating pressure 315 bar
- ▶ Maximum flow 60 l/min

Features

- ▶ 4/3, 4/2 or 3/2-way version
- ▶ Porting pattern according to ISO 4401-03-02-0-05
- ▶ High-power solenoids
- ▶ Wet-pin DC solenoids in hydraulic fluid
- ▶ Manual override
- ▶ Type of protection "d" (flameproof enclosure)
- ▶ Valve housing and solenoids are galvanized

Product description

Valve type WE 6 ...XD is a direct operated directional spool valve with solenoid actuation. It controls start, stop and direction of flow. The valve is suitable for use in potentially explosive atmospheres according to directive 2014/34/EU. The valve solenoids are also certified according to IECEx.

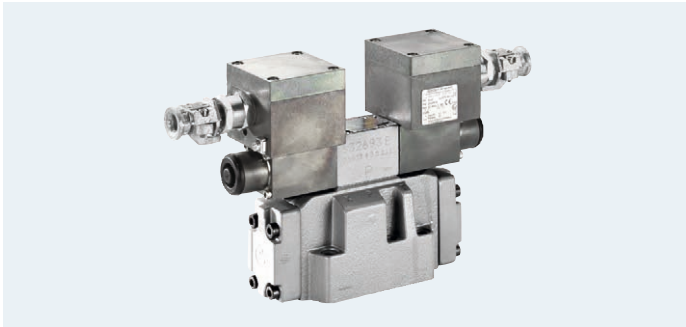
More detailed information:

Data sheet 23178-XD

Technical data

Operating pressure	p_{\max}	bar	315
Flow	$q_{V\max}$	l/min	60
Device group and category according to directive 2014/34/EU			I M2, II 2G
Type of protection valve solenoid for I M2			Ex d I Mb
Type of protection valve solenoid for II 2G			Ex d IIC T4 Gb
Standard for explosion protection			EN 60079-0 / EN 60079-1
Ambient temperature range	9	°C	-20 ... +80
Hydraulic fluid temperature range	9	°C	-20 ... +80

Directional spool valves, pilot operated, with electro-hydraulic actuation H-4WEH...XD



- ▶ Sizes 10, 16, 25, 32
- ▶ Component series 4X, 6X, 7X
- ▶ Maximum operating pressure 350 bar
- ▶ Maximum flow 1100 l/min

Features

- ▶ 4/2 or 4/3-way version
- ▶ Porting pattern according to ISO 4401
- ▶ Spring centering, spring end position or hydraulic end position
- ▶ Switching time adjustment
- ▶ Manual override
- ▶ Type of protection "d" (flameproof enclosure)
- ▶ Valve housing and solenoids are galvanized

Product description

The valve type H-4WEH...XD is a pilot operated directional spool valve with electro-hydraulic actuation. It controls start, stop and direction of flow. The valve is suitable for use in potentially explosive atmospheres according to directive 2014/34/EU. The valve solenoids are also certified according to IECEx.

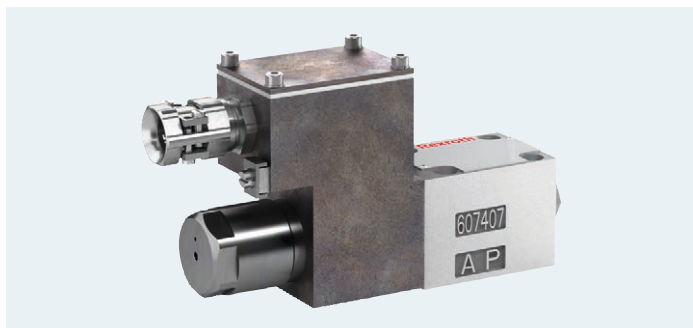
More detailed information:

Data sheet 24751-XD

Technical data

Size			10	16	25	32
Operating pressure	p_{max}	bar	350	350	350	350
Flow	q_{Vmax}	l/min	160	300	650	1100
Device group and category according to directive 2014/34/EU						I M2, II 2G
Type of protection valve solenoid for I M2						Ex d I Mb
Type of protection valve solenoid for II 2G						Ex d IIC T4 Gb
Standard for explosion protection						EN 60079-0 / EN 60079-1
Ambient temperature range	9	°C				-20 ... +80
Hydraulic fluid temperature range	9	°C				-20 ... +80

Directional seat valves, direct operated, with solenoid actuation SED 6...XE



- ▶ Size 6
- ▶ Component series 1X
- ▶ Maximum operating pressure 350 bar
- ▶ Maximum flow 25 l/min

Features

- ▶ 3/2 or 4/2-way version
- ▶ Porting pattern according to ISO 4401-03-02-0-05 (however, without locating hole)
- ▶ Blocked port is tight
- ▶ Safe switching with longer standstill periods under pressure
- ▶ Solenoid coil can be rotated by 90°
- ▶ Manual override
- ▶ Type of protection "e" (increased safety)
- ▶ Valve housing and solenoid are galvanized

Product description

Valve type SED 6...XE is a direct operated directional seat valve with solenoid actuation. It controls start, stop and direction of flow. The valve is suitable for use in potentially explosive atmospheres according to directive 2014/34/EU. The valve solenoid is also certified according to IECEx. Directional seat valves connect or isolate the connections by lowering or raising a sealing element (poppet, ball). The blocking is leakage-free.

More detailed information:

Data sheet 22049-XE

Technical data

Operating pressure	p_{\max}	bar	350
Flow	$q_{V\max}$	l/min	25
Device group and category according to directive 2014/34/EU			II 2G
Type of protection valve solenoid			Ex e mb IIC T4 Gb
Standard for explosion protection			EN 60079-7 / EN 60079-18
Ambient temperature range	☉	°C	-20 ... +70
Hydraulic fluid temperature range	☉	°C	-20 ... +80

Directional seat valves, direct operated, with solenoid actuation SEW 6...XE



- ▶ Size 6
- ▶ Component series 3X
- ▶ Maximum operating pressure 420 bar
- ▶ Maximum flow 25 l/min

Features

- ▶ 2/2, 3/2 or 4/2-way version
- ▶ Porting pattern according to ISO 4401-03-02-0-05 (however, without locating hole)
- ▶ Blocked port is tight
- ▶ Safe switching with longer standstill periods under pressure
- ▶ Solenoid coil can be rotated by 90°
- ▶ Manual override
- ▶ Type of protection "e" (increased safety)
- ▶ Valve housing and solenoid are galvanized

Product description

Valve type SEW 6...XE is a direct operated directional seat valve with solenoid actuation. It controls start, stop and direction of flow. The valve is suitable for use in potentially explosive atmospheres according to directive 2014/34/EU. The valve solenoid is also certified according to IECEx. Directional seat valves connect or isolate the connections by lowering or raising a sealing element (poppet, ball). The blocking is leakage-free.

More detailed information:

Data sheet 22058-XE

Technical data

Operating pressure	p_{\max}	bar	420
Flow	$q_{V\max}$	l/min	25
Device group and category according to directive 2014/34/EU			II 2G
Type of protection valve solenoid			Ex e mb IIC T4 Gb
Standard for explosion protection			EN 60079-7 / EN 60079-18
Ambient temperature range	ϑ	°C	-20 ... +70
Hydraulic fluid temperature range	ϑ	°C	-20 ... +80

Directional seat valves, direct operated, with solenoid actuation SEW 10...XE



- ▶ Size 10
- ▶ Component series 1X
- ▶ Maximum operating pressure 420 bar
- ▶ Maximum flow 40 l/min

Features

- ▶ 3/2 or 4/2-way version
- ▶ Porting pattern according to ISO 4401-05-04-0-05
- ▶ Blocked port is tight
- ▶ Safe switching with longer standstill periods under pressure
- ▶ Solenoid coil can be rotated by 90°
- ▶ Manual override
- ▶ Type of protection "e" (increased safety)
- ▶ Valve housing and solenoid are galvanized

Product description

Valve type SEW 10...XE is a direct operated directional seat valve with solenoid actuation. It controls start, stop and direction of flow. The valve is suitable for use in potentially explosive atmospheres according to directive 2014/34/EU. The valve solenoid is also certified according to IECEx. Directional seat valves connect or isolate the connections by lowering or raising a sealing element (poppet, ball). The blocking is leakage-free.

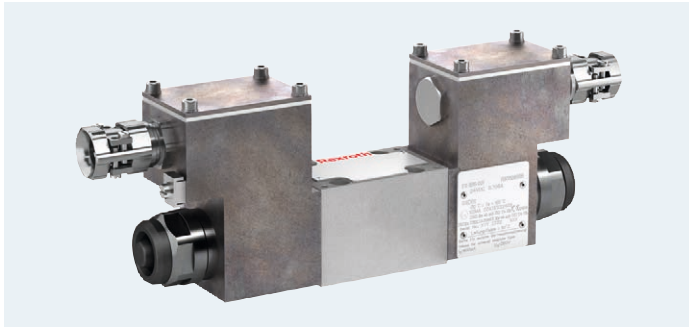
More detailed information:

Data sheet 22075-XE

Technical data

Operating pressure	p_{\max}	bar	420
Flow	$q_{V\max}$	l/min	40
Device group and category according to directive 2014/34/EU			II 2G
Type of protection valve solenoid			Ex e mb IIC T4 Gb
Standard for explosion protection			EN 60079-7 / EN 60079-18
Ambient temperature range	☉	°C	-20 ... +70
Hydraulic fluid temperature range	☉	°C	-20 ... +80

Directional spool valves, direct operated, with solenoid actuation WE 6 ...XE



- ▶ Size 6
- ▶ Component series 6X
- ▶ Maximum operating pressure 350 bar
- ▶ Maximum flow 70 l/min

Features

- ▶ 4/3, 4/2 or 3/2-way version
- ▶ Porting pattern according to ISO 4401-03-02-0-05
- ▶ High-power solenoids
- ▶ Wet-pin DC solenoids in hydraulic fluid
- ▶ Solenoid coil can be rotated by 90°
- ▶ Manual override
- ▶ Type of protection "e" (increased safety)
- ▶ Valve housing and solenoids are galvanized
- ▶ With inductive proximity sensor (on request)

Product description

Valve type WE 6 ...X is a direct operated directional spool valve with solenoid actuation. It controls start, stop and direction of flow. The valve is suitable for use in potentially explosive atmospheres according to directive 2014/34/EU. The valve solenoids are also certified according to IECEx.

More detailed information:

Data sheet 23178-XE

Technical data

Operating pressure	p_{\max}	bar	350
Flow	$q_{V\max}$	l/min	70
Device group and category according to directive 2014/34/EU			II 2G
Type of protection valve solenoid			Ex e mb IIC T4 Gb
Standard for explosion protection			EN 60079-7 / EN 60079-18
Ambient temperature range	ϑ	°C	-20 ... +70
Hydraulic fluid temperature range	ϑ	°C	-20 ... +80

Directional spool valves, pilot operated, with electro-hydraulic actuation H-4WEH...XE



- ▶ Sizes 10, 16, 25, 32
- ▶ Component series 4X, 6X, 7X
- ▶ Maximum operating pressure 350 bar
- ▶ Maximum flow 1100 l/min

Features

- ▶ 4/2 or 4/3-way version
- ▶ Porting pattern according to ISO 4401
- ▶ Spring centering, spring end position or hydraulic end position
- ▶ Switching time adjustment
- ▶ Manual override
- ▶ Type of protection "e" (increased safety)
- ▶ Valve housing and solenoid are galvanized

Product description

Valve type H-4WEH...XE is a pilot operated directional spool valve with electro-hydraulic actuation. It controls start, stop and direction of flow. The valve is suitable for use in potentially explosive atmospheres according to directive 2014/34/EU. The valve solenoids are also certified according to IECEx.

More detailed information:

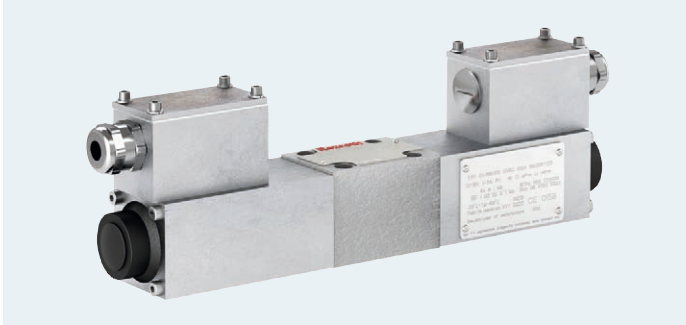
Data sheet 24751-XE

Technical data

Size			10	16	25	32
Operating pressure	p_{max}	bar	350	350	350	350
Flow	q_{Vmax}	l/min	160	300	650	1100
Device group and category according to directive 2014/34/EU						II 2G
Type of protection valve solenoid						Ex e mb IIC T4 Gb
Standard for explosion protection						EN 60079-7 / EN 60079-18
Ambient temperature range	9	°C				-20 ... +70
Hydraulic fluid temperature range	9	°C				-20 ... +80

Directional spool valves, direct operated, with solenoid actuation

WE 6 ...XH und WE 6 ...XM



- ▶ Size 6
- ▶ Component series 5X
- ▶ Maximum operating pressure 210 bar
- ▶ Maximum flow 20 l/min

Features

- ▶ 4/3, 4/2 or 3/2-way version
- ▶ Porting pattern according to ISO 4401-03-02-0-05
- ▶ Wet-pin DC solenoids in hydraulic fluid
- ▶ Manual override
- ▶ Type of protection "i" (intrinsically safe)
- ▶ Valve housing and solenoids are galvanized

Product description

Valve type WE 6 ...X. is a direct operated directional spool valve with solenoid actuation. It controls start, stop and direction of flow. The valve is suitable for use in potentially explosive atmospheres according to directive 2014/34/EU and optionally complies with device group I or II. The valve solenoids are certified according to IECEx.

More detailed information:

Data sheet 23177-XH

Technical data

Design			"XM"	"XH"
Device group and category according to directive 2014/34/EU			I M2	II 2G
Type of protection valve solenoid			Ex ib I Mb	Ex ib IIC T6 Gb
Standard for explosion protection			EN 60079-0 / EN 60079-11	EN 60079-0 / EN 60079-11
Operating pressure	p_{max}	bar	210	210
Flow	q_{Vmax}	l/min	20	20
Ambient temperature range	θ	°C	-20 ... +50	-20 ... +50
Hydraulic fluid temperature range	θ	°C	-20 ... +80	-20 ... +80

Directional seat valves, direct operated, with solenoid actuation SE 6 ...XH and SE 6 ...XM



- ▶ Size 6
- ▶ Component series 6X
- ▶ Maximum operating pressure 420 bar
- ▶ Maximum flow 4 l/min

Features

- ▶ 3/2 or 4/2-way version
- ▶ For hydraulic fluids
 - Oil in water emulsion ("E")
 - Water ("W")
- ▶ Porting pattern according to ISO 4401-03-02-0-05 (however, without locating hole)
- ▶ Blocked port is tight
- ▶ Safe switching with longer standstill periods under pressure
- ▶ Manual override
- ▶ Type of protection "i" (intrinsically safe)
- ▶ Valve housing and solenoid are galvanized

Product description

Valve type E(W)-.SE 6 ...X. is a direct operated directional seat valve with solenoid actuation. It controls start, stop and direction of flow. The valve is suitable for use in potentially explosive atmospheres according to directive 2014/34/EU and optionally complies with device group I or II. The valve solenoid is also certified according to IECEx. Directional seat valves connect or isolate the connections by lowering or raising a sealing element (poppet, ball). The blocking is leakage-free.

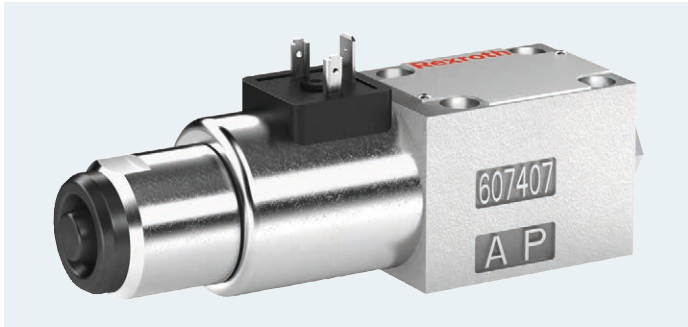
More detailed information:

Data sheet 22047-XH

Technical data

Design			"XM"	"XH"
Device group and category according to directive 2014/34/EU			I M2	II 2G
Type of protection valve solenoid			Ex ib I Mb	Ex ib IIC T6 Gb
Standard for explosion protection			EN 60079-0 / EN 60079-11	EN 60079-0 / EN 60079-11
Operating pressure	p_{max}	bar	420	420
Flow	q_{Vmax}	l/min	4	4
Ambient temperature range	θ	°C	-20 ... +50	-20 ... +50
Hydraulic fluid temperature range	θ	°C	+5 ... +50	+5 ... +50

Directional seat valves, direct operated, with solenoid actuation SED 6 ...XN



- ▶ Size 6
- ▶ Component series 1X
- ▶ Maximum operating pressure 350 bar
- ▶ Maximum flow 25 l/min

Features

- ▶ 3/2 or 4/2-way version
- ▶ Porting pattern according to ISO 4401-03-02-0-05 (however, without locating hole)
- ▶ Blocked port is tight
- ▶ Safe switching with longer standstill periods under pressure
- ▶ Solenoid coil can be rotated by 90°
- ▶ Manual override
- ▶ Type of protection "n" (not igniting)
- ▶ Valve housing and solenoid are galvanized
- ▶ With mating connector in ATEX design (cable set DS2513)

Product description

Valve type SED 6 ...XN is a direct operated directional seat valve with solenoid actuation. It controls start, stop and direction of flow. The valve is suitable for use in potentially explosive atmospheres according to directive 2014/34/EU. Directional seat valves connect or isolate the connections by lowering or raising a sealing element (poppet, ball). The blocking is leakage-free.

More detailed information:

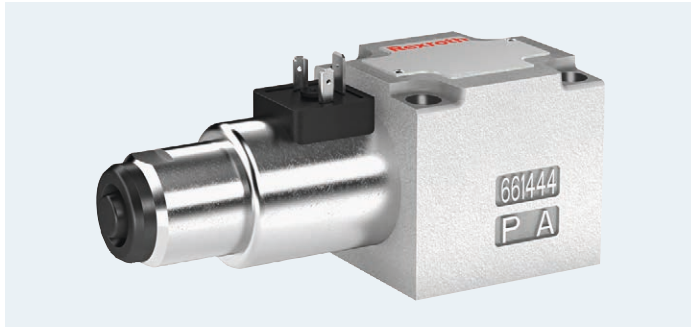
Data sheet 22049-XN

Technical data

Operating pressure	p_{\max}	bar	350
Flow	$q_{V\max}$	l/min	25
Device group and category according to directive 2014/34/EU			II 3G, II 3D
Type of protection valve solenoid for II 3G			Ex nA IIC T3 Gc
Type of protection valve solenoid for II 3D			Ex tc IIIC T140°C Dc IP65
Standard for explosion protection			EN 60079-15 / EN 60079-31
Ambient temperature range	9	°C	-20 ... +50
Hydraulic fluid temperature range	9	°C	-20 ... +80

Directional seat valves, direct operated, with solenoid actuation

SED 10 ...XN



- ▶ Size 10
- ▶ Component series 1X
- ▶ Maximum operating pressure 350 bar
- ▶ Maximum flow 40 l/min

Features

- ▶ 3/2 or 4/2-way version
- ▶ Porting pattern according to ISO 4401-05-04-0-05
- ▶ Blocked port is tight
- ▶ Safe switching with longer standstill periods under pressure
- ▶ Solenoid coil can be rotated by 90°
- ▶ Manual override
- ▶ Type of protection "n" (not igniting)
- ▶ Valve housing and solenoid are galvanized
- ▶ With mating connector in ATEX design (cable set DS2513)

Product description

Valve type SED 10 ...XN is a direct operated directional seat valve with solenoid actuation. It controls start, stop and direction of flow. The valve is suitable for use in potentially explosive atmospheres according to directive 2014/34/EU. Directional seat valves connect or isolate the connections by lowering or raising a sealing element (poppet, ball). The blocking is leakage-free.

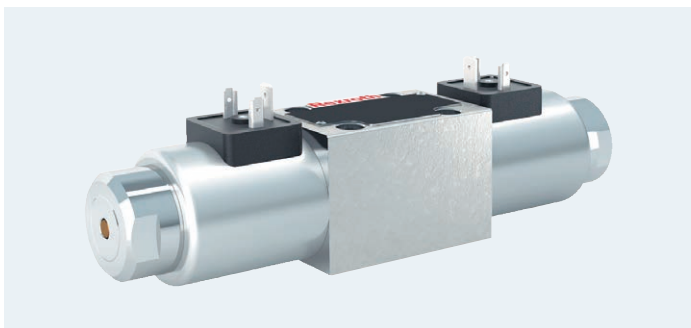
More detailed information:

Data sheet 22045-XN

Technical data

Operating pressure	p_{\max}	bar	350
Flow	$q_{V\max}$	l/min	40
Device group and category according to directive 2014/34/EU			II 3G, II 3D
Type of protection valve solenoid for II 3G			Ex nA IIC T3 Gc
Type of protection valve solenoid for II 3D			Ex tc IIIC T140°C Dc IP65
Standard for explosion protection			EN 60079-15 / EN 60079-31
Ambient temperature range	9	°C	-20 ... +50
Hydraulic fluid temperature range	9	°C	-20 ... +80

Directional spool valves, direct operated, with solenoid actuation WE 6 ...XN



- ▶ Size 6
- ▶ Component series 6X
- ▶ Maximum operating pressure 350 bar
- ▶ Maximum flow 80 l/min

Features

- ▶ 4/3, 4/2 or 3/2-way version
- ▶ Porting pattern according to ISO 4401-03-02-0-05
- ▶ High-power solenoids
- ▶ Wet-pin DC solenoids in hydraulic fluid
- ▶ Solenoid coil can be rotated by 90°
- ▶ Manual override
- ▶ Type of protection "n" (not igniting)
- ▶ Valve housing and solenoids are galvanized
- ▶ With mating connector in ATEX design (cable set DS2513)

Product description

Valve type WE 6 ...XN is a direct operated directional spool valve with solenoid actuation. It controls start, stop and direction of flow. The valve is suitable for use in potentially explosive atmospheres according to directive 2014/34/EU.

More detailed information:

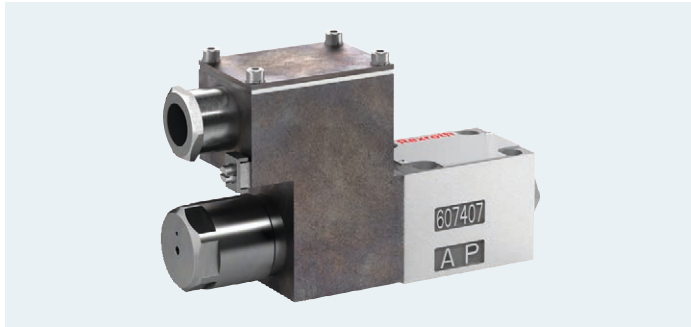
Data sheet 23178-XN

Technical data

Operating pressure	p_{\max}	bar	350
Flow	$q_{V\max}$	l/min	80
Device group and category according to directive 2014/34/EU			II 3G, II 3D
Type of protection valve solenoid for II 3G			Ex nA IIC T3 Gc
Type of protection valve solenoid for II 3D			Ex tc IIIC T140°C Dc IP65
Standard for explosion protection			EN 60079-15 / EN 60079-31
Ambient temperature range	9	°C	-20 ... +50
Hydraulic fluid temperature range	9	°C	-20 ... +80

Directional seat valves, direct operated, with solenoid actuation

SED 6...VE1



- ▶ Size 6
- ▶ Component series 1X
- ▶ Maximum operating pressure 350 bar
- ▶ Maximum flow 25 l/min

Features

- ▶ 3/2 or 4/2-way version
- ▶ Porting pattern according to ISO 4401-03-02-0-05
- ▶ Blocked port is tight
- ▶ Safe switching with longer standstill periods under pressure
- ▶ Solenoid coil can be rotated by 90°
- ▶ Manual override
- ▶ Valve housing and solenoid are galvanized
- ▶ Electrical connection as single connection with pipe thread NPT 1/2"

Product description

Valve type SED 6...VE1 is a direct operated directional seat valve with solenoid actuation. It controls start, stop and direction of flow. The valve is suitable for use in potentially explosive atmospheres according to NEC 505 (class I, zone 1).

Directional seat valves connect or isolate the connections by lowering or raising a sealing element (poppet, ball). The blocking is leakage-free.

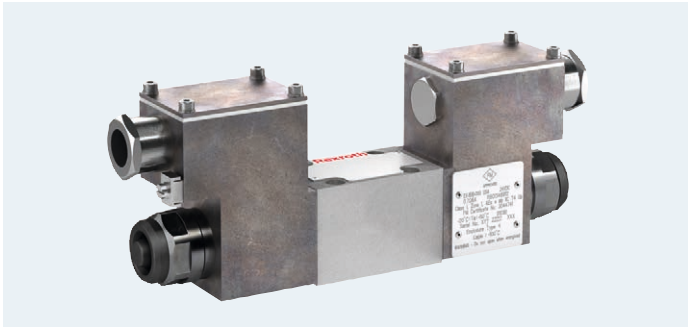
More detailed information:

Data sheet 22049-VE1

Technical data

Operating pressure	p_{\max}	bar	350
Flow	$q_{V\max}$	l/min	70
Area of application according to NEC505			Class I, Zone 1
Type of protection valve solenoid			AEx e mb IIC T4 Gb
Standard for explosion protection			ANSI / ISA 60079-7, ANSI / ISA 60079-18
FM certificate			3044741
Ambient temperature range	9	°C	-20 ... +60
Hydraulic fluid temperature range	9	°C	-20 ... +80

Directional spool valves, direct operated, with solenoid actuation WE 6 ...VE1



- ▶ Size 6
- ▶ Component series 6X
- ▶ Maximum operating pressure 350 bar
- ▶ Maximum flow 70 l/min

Features

- ▶ 4/3, 4/2 or 3/2-way version
- ▶ Porting pattern according to ISO 4401-03-02-0-05
- ▶ Wet-pin DC solenoids in hydraulic fluid
- ▶ Manual override
- ▶ Valve housing and solenoid are galvanized
- ▶ Electrical connection as single connection with pipe thread NPT 1/2"

Product description

Valve type WE 6 ...VE1 is a direct operated directional spool valve with solenoid actuation. It controls start, stop and direction of flow. The valve is suitable for use in potentially explosive atmospheres according to NEC 505 (class I, zone 1).

More detailed information:

Data sheet 23178-VE1

Technical data

Operating pressure	p_{\max}	bar	350
Flow	$q_{V\max}$	l/min	70
Area of application according to NEC505			Class I, Zone 1
Type of protection valve solenoid			AEx e mb IIC T4 Gb
Standard for explosion protection			ANSI / ISA 60079-7, ANSI / ISA 60079-18
FM certificate			3044741
Ambient temperature range	9	°C	-20 ... +60
Hydraulic fluid temperature range	9	°C	-20 ... +80

Directional spool valves, direct operated, with solenoid actuation

WE 6 ...VP1



- ▶ Size 6
- ▶ Component series 5X
- ▶ Maximum operating pressure 350 bar
- ▶ Maximum flow 70 l/min

Features

- ▶ 4/3, 4/2 or 3/2-way version
- ▶ Porting pattern according to ISO 4401-03-02-0-05
- ▶ Wet-pin DC solenoids in hydraulic fluid
- ▶ Manual override
- ▶ Valve housing and solenoid are galvanized
- ▶ Electrical connection as single connection with pipe thread NPT 1/2"

Product description

Valve type WE 6 ...VP1 is a direct operated directional spool valve with solenoid actuation. It controls start, stop and direction of flow. The valve is suitable for use in potentially explosive atmospheres according to NEC500 and CEC Annex J as well as NEC502 and CEC Section 18.

More detailed information:

Data sheet 23178-VP1

Technical data

Operating pressure	p_{\max}	bar	350
Flow	$q_{V\max}$	l/min	70
Area of application according to NEC505 and CEC Annex J			Class I, Division 1, Groups B, C, D T4
Area of application according to NEC502 and CEC Section 18			Class II/III, Division 1, Groups E, F, G T4
Type of protection valve solenoid			XP (explosion-protected); DIP (dust ignition protection)
FM certificate US			3055770
FM certificate Canada			3055770C
Ambient temperature range	9	°C	-20 ... +60
Hydraulic fluid temperature range	9	°C	-20 ... +80

Directional spool valves, pilot operated, with electro-hydraulic actuation H-4WEH...VP1



- ▶ Sizes 10, 16, 25, 32
- ▶ Component series 4X, 6X, 7X
- ▶ Maximum operating pressure 350 bar
- ▶ Maximum flow 1100 l/min

Features

- ▶ 4/2 or 4/3-way version
- ▶ Porting pattern according to ISO 4401
- ▶ Spring centering, spring end position or hydraulic end position
- ▶ Switching time adjustment
- ▶ Manual override
- ▶ Valve housing and solenoid are galvanized
- ▶ Electrical connection as single connection with pipe thread NPT 1/2"

Product description

Valve type H-4WEH...XE is a pilot operated directional spool valve with electro-hydraulic actuation. It controls start, stop and direction of flow. The valve is suitable for use in potentially explosive atmospheres according to NEC500 and CEC Annex J as well as NEC502 and CEC Section 18.

More detailed information:

Data sheet 24751-VP1

Technical data

Operating pressure	p_{\max}	bar	350
Flow	$q_{V\max}$	l/min	1100
Area of application according to NEC505 and CEC Annex J			Class I, Division 1, Groups B, C, D T4
Area of application according to NEC502 and CEC Section 18			Class II/III, Division 1, Groups E, F, G T4
Type of protection valve solenoid			XP (explosion-protected); DIP (dust ignition protection)
FM certificate US			3055770
FM certificate Canada			3055770C
Ambient temperature range	ϑ	°C	-20 ... +60
Hydraulic fluid temperature range	ϑ	°C	-20 ... +80

Directional spool valves, direct operated, with manual actuation

WMM 6 ...XC



- ▶ Size 6
- ▶ Component series 5X
- ▶ Maximum operating pressure 315 bar
- ▶ Maximum flow 60 l/min

Features

- ▶ 4/3, 4/2 or 3/2-way version
- ▶ Porting pattern according to ISO 4401-03-02-0-05
- ▶ Type of protection "c" (structural safety)
- ▶ Galvanized surfaces

Product description

The valve type WMM 6 ...XC is a direct operated directional spool valve with manual actuation. It controls start, stop and direction of flow. The valve is suitable for use in potentially explosive atmospheres according to directive 2014/34/EU.

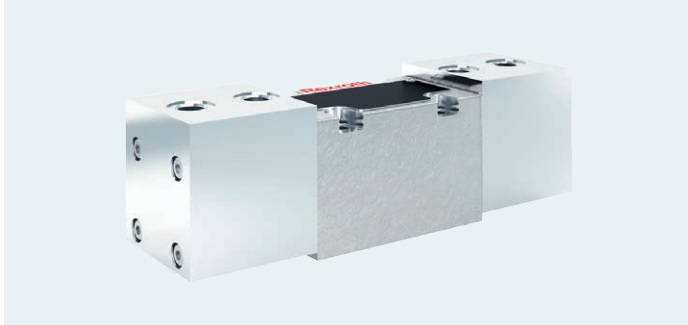
More detailed information:

Data sheet 22280-XC

Technical data

Operating pressure	p_{\max}	bar	315
Flow	$q_{V\max}$	l/min	60
Device group and category according to directive 2014/34/EU			IM2, II 2G, II 2D, II 3G, II 3D
Type of protection valve			c
Standard for explosion protection			EN 13463-5
Ambient temperature range	9	°C	-30 ... +80
Hydraulic fluid temperature range	9	°C	-30 ... +80

Directional spool valves, direct operated, with fluidic actuation WP 6...XC and WH 6...XC



- ▶ Size 6
- ▶ Component series 5X (WH),
- ▶ Component series 6X (WP)
- ▶ Maximum operating pressure 315 bar
- ▶ Maximum flow 60 l/min

Features

- ▶ 4/3, 4/2 or 3/2-way version
- ▶ Porting pattern according to ISO 4401-03-02-0-05 (with or without locating hole)
- ▶ Types of actuation:
 - Pneumatic (WP)
 - Hydraulic (WN)
- ▶ Type of protection "c" (structural safety)
- ▶ Galvanized surfaces

Product description

Valves type WP 6...XC and WH 6...XC are direct operated directional spool valves with pneumatic or hydraulic actuation. They control start, stop and direction of flow. The valves are suitable for use in potentially explosive atmospheres according to directive 2014/34/EU.

More detailed information:

Data sheet 22282-XC

Technical data

Operating pressure	p_{\max}	bar	315
Flow	$q_{V\max}$	l/min	60
Device group and category according to directive 2014/34/EU			IM2, II 2G, II 2D, II 3G, II 3D
Type of protection valve			c
Standard for explosion protection			EN 13463-5
Ambient temperature range	ϑ	°C	–30 ... +80
Hydraulic fluid temperature range	ϑ	°C	–30 ... +80

Pressure relief valves, pilot operated DB...XC



- ▶ Size 10, 20, 30
- ▶ Component series 5X
- ▶ Maximum operating pressure 350 bar
- ▶ Maximum flow 650 l/min

Features

- ▶ Porting pattern according to ISO 6264-A
- ▶ Adjustment type rotary knob
- ▶ Type of protection "c" (structural safety)

Product description

The valve type DB...XC is a pilot operated pressure relief valve for subplate mounting or pipeline installation. It is used to limit the operating pressure. The valve is suitable for use in potentially explosive atmospheres according to directive 2014/34/EU.

More detailed information:

Data sheet 25802-XC

Technical data

Size			10	20	30
Operating pressure	p_{\max}	bar	350	350	350
Flow	$q_{V\max}$	l/min	250	500	650
Device group and category according to directive 2014/34/EU					IM2, II 2G, II 2D
Type of protection valve					c
Standard for explosion protection					EN 13463-5
Ambient temperature range	9	°C			-20 ... +80
Hydraulic fluid temperature range	9	°C			-20 ... +80

Pressure reducing valves, direct operated

DR 6 DP...XC and ZDR 6 D...XC



- ▶ Size 6
- ▶ Component series 5X (type DR 6)
- ▶ Component series 4X (type ZDR 6)
- ▶ Maximum operating pressure 315 bar
- ▶ Maximum flow 60 l/min

Features

- ▶ For subplate mounting (type DR 6)
- ▶ Sandwich plate valve (type ZDR 6)
- ▶ Porting pattern according to ISO 4401-03-02-0-05 (with or without locating hole)
- ▶ 5 pressure ratings (type DR 6)
- ▶ 4 pressure ratings (type ZDR 6)
- ▶ Adjustment type as rotary knob
- ▶ Check valve, optional
- ▶ Type of protection "c" (structural safety)

Product description

Valves type DR 6 DP...XC and ZDR 6 D...XC are direct operated pressure reducing valves. They are used to keep the output pressure (actuator pressure, secondary pressure) at a constant value that lies below the variable pressure in the main circuit (inlet pressure, primary pressure). The valves are suitable for use in potentially explosive atmospheres according to directive 2014/34/EU.

More detailed information:

Data sheet 26564-XC

Technical data

Design			DR 6 DP...XC	ZDR 6 D...XC
Operating pressure	p_{\max}	bar	315	315
Flow	$q_{V\max}$	l/min	60	50
Device group and category according to directive 2014/34/EU				IM2, II 2G
Type of protection valve				c
Standard for explosion protection				EN 13463-5
Ambient temperature range	9	°C		-30 ... +80
Hydraulic fluid temperature range	9	°C		-30 ... +80

Safety valves, direct operated

DBDH...XC...E



- ▶ Size 6, 10, 20, 30
- ▶ Component series 1X
- ▶ Maximum operating pressure 630 bar

Features

- ▶ Adjustment type rotary knob
- ▶ Type of protection "c" (structural safety)

Product description

Valve type DBDH...XC...E is a direct operated pressure relief valve as screw-in cartridge valve, for subplate mounting or pipeline installation. It is used to limit the operating pressure. The valve is suitable for use in potentially explosive atmospheres according to directive 2014/34/EU.

More detailed information:

Data sheet 25010-XC

Technical data

Size			6	10	20	30
Operating pressure	p_{\max}	bar	400	630	400	400
Flow	$q_{V\max}$	l/min	52	140	165	300
Device group and category according to directive 2014/34/EU						IM2, II 2G, II 2D
Type of protection valve						c
Standard for explosion protection						EN 13463-5
Ambient temperature range	9	°C				-30 ... +80
Hydraulic fluid temperature range	9	°C				-15 ... +60

Throttle check valves

Z2FS 6 ...XC



- ▶ Size 6
- ▶ Component series 4X
- ▶ Maximum operating pressure 315 bar
- ▶ Maximum flow 80 l/min

Features

- ▶ Sandwich plate valve
- ▶ Porting pattern according to ISO 4401-03-02-0-05
- ▶ Setscrew with lock nut and protective cap
- ▶ For supply or discharge throttling
- ▶ Type of protection "c" (structural safety)

Product description

Valve type Z2FS 6 ...XC is a throttle check valve in sandwich plate design. It is used for the main or pilot flow limitation of one or two actuator ports. The valve is suitable for use in potentially explosive atmospheres according to directive 2014/34/EU.

Two throttle check valves aligned symmetrically to each other limit flows in one direction and allow free return flow in the opposite direction.

More detailed information:

Data sheet 27506-XC

Technical data

Operating pressure	p_{\max}	bar	315
Flow	$q_{V\max}$	l/min	80
Device group and category according to directive 2014/34/EU			IM2, II 2G, II 2D
Type of protection valve			c
Standard for explosion protection			EN 13463-5
Ambient temperature range	ϑ	°C	-30 ... +80
Hydraulic fluid temperature range	ϑ	°C	-30 ... +80

Additional non-electrical hydraulic components in potentially explosive atmospheres (ATEX)



- ▶ Isolator valves
- ▶ Directional valves
- ▶ Flow control valves

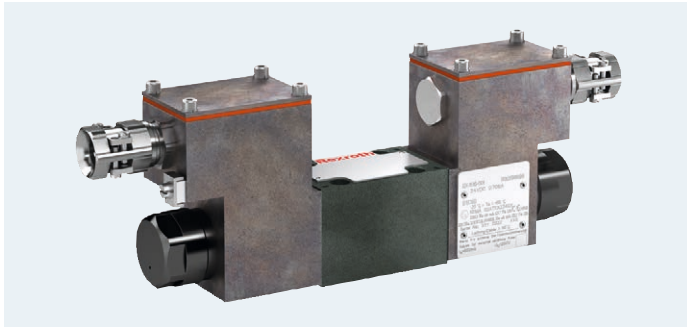
In contrast to other applicable international standards and regulations, ATEX directive 2014/34/EU also includes requirements on "non-electrical devices for use in potentially explosive atmospheres". In hydraulic systems, these are simple components like fittings, plates, blocks, valve inserts and mechanical hydraulic valves without electrical control, sensor technology or attachment parts.

For selected Bosch Rexroth products from the standard catalog without design-specific potential ignition sources like sparks, electric arcs or hazardous hot surfaces during application and under environmental conditions according to the related data sheet and operating instructions 07600-B, please refer to separate data sheet 07011. For this reason, directive 2014/34/EU does not apply. In consideration of external influences and environmental conditions, non-electric hydraulic components (isolator valves, directional valves and flow control valves) listed in data sheet 07011 can also be used in potentially explosive atmospheres.

More detailed information:

Data sheet 07011

Proportional directional valves, direct operated, without electrical position feedback 4WRA 6 ...XE



- ▶ Size 6
- ▶ Component series 2X
- ▶ Maximum operating pressure 315 bar
- ▶ Maximum flow 22 l/min

Features

- ▶ 4/2 or 4/3-way version
- ▶ Porting pattern according to ISO 4401-03-02-0-05
- ▶ Seawater-resistant
- ▶ Solenoid coil can be rotated by 90°
- ▶ Type of protection "e" (increased safety)
- ▶ Valve housing and solenoid are galvanized

Product description

Valve type 4WRA 6 ...XE is a direct operated proportional directional valve with solenoid actuation. They control the flow direction and volume. The valve is suitable for use in potentially explosive atmospheres according to directive 2014/34/EU. The valve solenoid is also certified according to IECEx.

More detailed information:

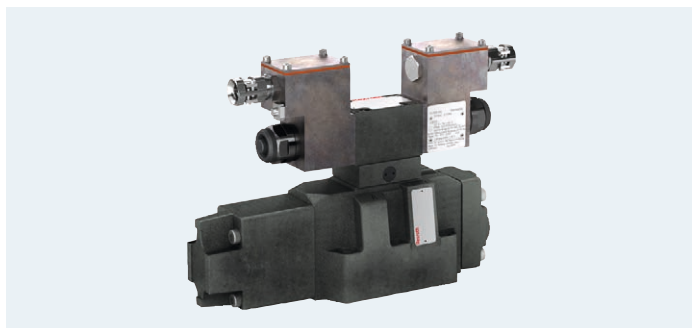
Data sheet 29055-XE

Technical data

Operating pressure	p_{\max}	bar	315
Flow	$q_{V\max}$	l/min	22
Device group and category according to directive 2014/34/EU			II 2G
Type of protection valve solenoid			Ex e mb IIC T4 Gb
Standard for explosion protection			EN 60079-7 / EN 60079-18
Ambient temperature range	ϑ	°C	-20 ... +60
Hydraulic fluid temperature range	ϑ	°C	-20 ... +80

Proportional directional valves, pilot operated, without electrical position feedback

4WRZ...XE



- ▶ Size 10, 16, 25, 32
- ▶ Component series 7X
- ▶ Maximum operating pressure 350 bar
- ▶ Maximum flow 1600 l/min

Features

- ▶ 4/2 or 4/3-way version
- ▶ Porting pattern according to ISO 4401
- ▶ Seawater-resistant
- ▶ Solenoid coil can be rotated by 90°
- ▶ Type of protection "e" (increased safety)
- ▶ Valve housing and solenoid are galvanized

Product description

Valve type 4WRZ...XE is a pilot operated proportional directional valve with solenoid actuation. They control the flow direction and volume. The valve is suitable for use in potentially explosive atmospheres according to directive 2014/34/EU. The valve solenoid is also certified according to IECEx.

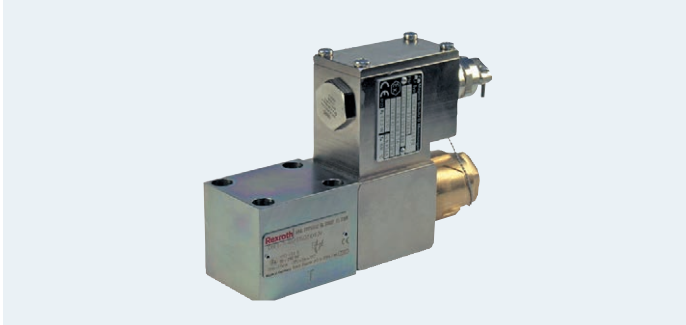
More detailed information:

Data sheet 29115-XE

Technical data

Size			10	16	25	32
Operating pressure	p_{max}	bar	315	350	350	350
Flow	q_{Vmax}	l/min	170	460	870	1600
Device group and category according to directive 2014/34/EU						II 2G
Type of protection valve solenoid						Ex e mb IIC T4 Gb
Standard for explosion protection						EN 60079-7 / EN 60079-18
Ambient temperature range	9	°C				-20 ... +60
Hydraulic fluid temperature range	9	°C				-20 ... +80

Proportional pressure relief valves, direct operated DBET...XE



- ▶ Size 6
- ▶ Component series 6X
- ▶ Maximum operating pressure 420 bar
- ▶ Maximum flow 2 l/min

Features

- ▶ Porting pattern according to ISO 4401-03-02-0-05
- ▶ Seawater-resistant
- ▶ Type of protection "e" (increased safety)

Product description

Valve type DBET...XE is a direct operated proportional pressure relief valve with solenoid actuation in seat design. It serves for system pressure limitation. The valve is suitable for use in potentially explosive atmospheres according to directive 2014/34/EU.

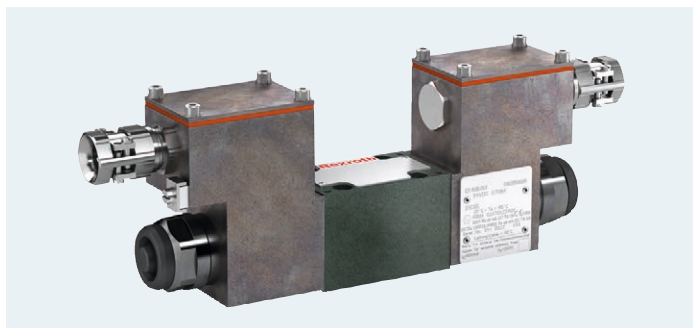
More detailed information:

Data sheet 29162-XE

Technical data

Operating pressure	p_{\max}	bar	420
Flow	$q_{V\max}$	l/min	2
Device group and category according to directive 2014/34/EU			II 2G, II 2D
Type of protection valve solenoid for II 2G			Ex e mb IIT4
Type of protection valve solenoid for II 2D			Ex tD A21 T130°C IP67
Standard for explosion protection			EN 60079-7 / EN 60079-18 / EN 61241-0 / EN 61241-1
Ambient temperature range	9	°C	-20 ... +70
Hydraulic fluid temperature range	9	°C	-15 ... +80

Proportional pressure reducing valve in 3-way version 3DREP 6 ...XE



- ▶ Size 6
- ▶ Component series 2X
- ▶ Maximum operating pressure 100 bar
- ▶ Maximum flow 15 l/min

Features

- ▶ Porting pattern according to ISO 4401-03-02-0-05
- ▶ Seawater-resistant
- ▶ Solenoid coil can be rotated by 90°
- ▶ Type of protection "e" (increased safety)
- ▶ Valve housing and solenoid are galvanized

Product description

Valve type 3DREP 6 ...XE is a direct operated proportional directional valve with solenoid actuation. They control the flow direction and volume. The valve is suitable for use in potentially explosive atmospheres according to directive 2014/34/EU.

More detailed information:

Data sheet 29184-XE

Technical data

Operating pressure	p_{\max}	bar	100
Flow	$q_{V\max}$	l/min	15
Device group and category according to directive 2014/34/EU			II 2G
Type of protection valve solenoid			Ex e mb IIC T4 Gb
Standard for explosion protection			EN 60079-7 / EN 60079-18
Ambient temperature range	☉	°C	-20 ... +60
Hydraulic fluid temperature range	☉	°C	-20 ... +80

Directional servo valves, with mechanical position feedback 4WS2EM 10 ...XH



- ▶ Size 10
- ▶ Component series 5X
- ▶ Maximum operating pressure 315 bar
- ▶ Maximum flow 180 l/min

Features

- ▶ 4/3-way version
- ▶ Porting pattern according to 4401-05-05-0-05
- ▶ 2-stage servo valve with mechanical feedback
- ▶ Dry control motor, no contamination of the solenoid gaps by the hydraulic fluid
- ▶ Can also be used as 3-way version
- ▶ Variants SO100, SO102 and SO104 with special control spools
- ▶ Type of protection "ia" (intrinsically safe)

Product description

Valve type 4WS2EM 10 ...XH is a directional servo valve with solenoid actuation. It is suitable for the position, velocity, pressure and force control with very high requirements on the dynamics and the response sensitivity. The valve is suitable for use in potentially explosive atmospheres according to directive 2014/34/EU.

More detailed information:

Data sheet 29583-XH, 29583-XH-100, 29583-XH-102, 29583-XH-104

Technical data

Operating pressure	p_{\max}	bar	210/315
Flow	$q_{V\max}$	l/min	180
Device group and category according to directive 2014/34/EU			II 1G
Type of protection			Ex ia IIC T4 Ga
Standard for explosion protection			EN 60079-0 / EN 60079-11
Ambient temperature range	ϑ	°C	-20 ... +60
Hydraulic fluid temperature range	ϑ	°C	-15 ... +60

Directional servo valves, with mechanical position feedback

4WS2EM 10 ...XD



- ▶ Size 10
- ▶ Component series 5X
- ▶ Maximum operating pressure 315 bar
- ▶ Maximum flow 180 l/min

Features

- ▶ 4/3-way version
- ▶ Porting pattern according to 4401-05-05-0-05
- ▶ 2-stage servo valve with mechanical feedback
- ▶ Dry control motor, no contamination of the solenoid gaps by the hydraulic fluid
- ▶ Can also be used as 3-way version
- ▶ Control spool with flow force compensation
- ▶ Type of protection "d" (flameproof enclosure)

Product description

Valve type 4WS2EM 10 ...XD is a directional servo valve with solenoid actuation. It is suitable for the position, velocity, pressure and force control with very high requirements on the dynamics and the response sensitivity. The valve is suitable for use in potentially explosive atmospheres according to directive 2014/34/EU.

More detailed information:

Data sheet 29583-XD

Technical data

Operating pressure	p_{\max}	bar	315
Flow	$q_{V\max}$	l/min	180
Device group and category according to directive 2014/34/EU			II 2G
Type of protection			Ex d IIB T4 Gb
Standard for explosion protection			EN 60079-0 / EN 60079-1 / IEC 60079-0 / IEC 60079-1
Ambient temperature range	9	°C	-30 ... +80
Hydraulic fluid temperature range	9	°C	-15 ... +80

Directional servo valves, with mechanical position feedback 4WS2EM 10 ...XD5



- ▶ Size 10
- ▶ Component series 5X
- ▶ Maximum operating pressure 315 bar
- ▶ Maximum flow 180 l/min

Features

- ▶ 4/3-way version
- ▶ Porting pattern according to 4401-05-05-0-05
- ▶ 2-stage servo valve with mechanical feedback
- ▶ Dry control motor, no contamination of the solenoid gaps by the hydraulic fluid
- ▶ Can also be used as 3-way version
- ▶ Control spool with flow force compensation
- ▶ Type of protection "d" (flameproof enclosure)

Product description

Valve type 4WS2EM 10 ...XD5 is a directional servo valve with solenoid actuation. It is suitable for the position, velocity, pressure and force control with very high requirements on the dynamics and the response sensitivity. The valve is suitable for use in potentially explosive atmospheres according to directive 2014/34/EU.

More detailed information:

Data sheet 29583-XD5-B2

Technical data

Operating pressure	p_{\max}	bar	315
Flow	$q_{V\max}$	l/min	180
Device group and category according to directive 2014/34/EU			II 2G
Type of protection			Ex d IIB T4 Gb
Standard for explosion protection			IEC 60079-0 / IEC 60079-1
Ambient temperature range	ϑ	°C	-30 ... +80
Hydraulic fluid temperature range	ϑ	°C	-15 ... +80

Directional servo valves, with mechanical position feedback

4WS2EM 10 ...XD6



- ▶ Size 10
- ▶ Component series 5X
- ▶ Maximum operating pressure 315 bar
- ▶ Maximum flow 180 l/min

Features

- ▶ 4/3-way version
- ▶ Porting pattern according to 4401-05-05-0-05
- ▶ 2-stage servo valve with mechanical feedback
- ▶ Dry control motor, no contamination of the solenoid gaps by the hydraulic fluid
- ▶ Can also be used as 3-way version
- ▶ Control spool with flow force compensation
- ▶ Type of protection "d" (flameproof enclosure)

Product description

Valve type 4WS2EM 10 ...XD6 is a directional servo valve with solenoid actuation. It is suitable for the position, velocity, pressure and force control with very high requirements on the dynamics and the response sensitivity. The valve is suitable for use in potentially explosive atmospheres according to directive 2014/34/EU.

More detailed information:

Data sheet 29583-XD6-B2

Technical data

Operating pressure	p_{\max}	bar	315
Flow	$q_{V\max}$	l/min	180
Device group and category according to directive 2014/34/EU			II 2G
Type of protection			Ex d IIB T4 Gb
Standard for explosion protection			IEC 60079-0 / IEC 60079-1
Ambient temperature range	9	°C	-30 ... +80
Hydraulic fluid temperature range	9	°C	-15 ... +80

Directional servo valves, with mechanical position feedback 4WS2EM 10 ...VH1



- ▶ Size 10
- ▶ Component series 5X
- ▶ Maximum operating pressure 315 bar
- ▶ Maximum flow 180 l/min

Features

- ▶ 4/3-way version
- ▶ Porting pattern according to 4401-05-05-0-05
- ▶ 2-stage servo valve with mechanical feedback
- ▶ Dry control motor, no contamination of the solenoid gaps by the hydraulic fluid
- ▶ Can also be used as 3-way version
- ▶ Variants SO100, SO102, SO104 and SO114 with special control spools

Product description

Valve type 4WS2EM 10 ...VH1 is a directional servo valve with solenoid actuation. It is suitable for the position, velocity, pressure and force control with very high requirements on the dynamics and the response sensitivity. The valve is suitable for use in potentially explosive atmospheres according to NEC505.

More detailed information:

Data sheet 29583-VH1, 29583-VH1-100, 29583-VH1-102, 29583-VH1-104, 29583-VH1-114

Technical data

Operating pressure	p_{\max}	bar	315
Flow	$q_{V\max}$	l/min	180
Area of application according to NEC505			IS Class I, Zone 0, AEx ia IIC T4 / NI Class I, Zone 2
FM certificate			3041230
Ambient temperature range	ϑ	°C	-20 ... +60
Hydraulic fluid temperature range	ϑ	°C	-15 ... +60

Tank mounted return line filters

25TE0101 ... 1051



- ▶ Size according to Rexroth standard: 0101 ... 1051
- ▶ Component series 2X
- ▶ Maximum nominal pressure 25 bar
- ▶ Operating temperature $-10\text{ °C} \dots +100\text{ °C}$
- ▶ Connection up to 3"

Features

- ▶ Special highly efficient filter materials
- ▶ Filtration of very fine particles and high dirt holding capacity across a broad pressure differential range
- ▶ High collapse rating of the filter elements
- ▶ Available as an option with different back pressure indicators
- ▶ Bypass valve in filter element
- ▶ Filter element with integrated dirt collector
- ▶ Type of protection "c" (structural safety)

Product description

The tank mounted return line filters are designed for installation on fluid tanks. Their function is to separate solid materials from fluids. The filters are suitable for use in potentially explosive atmospheres according to directive 2014/34/EU.

More detailed information:

Data sheet 51472

Technical data

Size			0101	0201	0351	1051
Operating pressure		p_{\max}	bar		25	
Flow		$q_{V\max}$	l/min		53 134 222 314	
Filter rating	nominal		μm		10 ... 100	
	absolute		μm		3 ... 20	
Device group and category according to directive 2014/34/EU						II 2G, II 2D
Type of protection						Ex II 2G c IIB TX, Ex II 2D c IIB TX
Standard for explosion protection						EN 13463-5
Ambient temperature range		9	$^{\circ}\text{C}$		-10 ... +65	
Hydraulic fluid temperature range		9	$^{\circ}\text{C}$		-10 ... +100	

Duplex filters

63FLDKN0063 ... 0250; 63FLDK0130, 63FLDK0150



- ▶ Size according to DIN 24550: 0063 ... 0250
- ▶ Additional sizes: 0130, 0150
- ▶ Nominal pressure 63 bar
- ▶ Operating temperature $-10\text{ °C} \dots +100\text{ °C}$
- ▶ Connection up to SAE 2" 3000 psi

Features

- ▶ Filters for inline installation, switchable
- ▶ Special highly efficient filter materials
- ▶ Filtration of very fine particles and high dirt holding capacity across a broad pressure differential range
- ▶ High collapse rating of the filter elements
- ▶ By default equipped with mechanical visual maintenance indicator with memory function
- ▶ Available as an option with different electronic switching elements, modular design
- ▶ Optional bypass valve integrated in the filter housing
- ▶ Type of protection "c" (structural safety)

Product description

Duplex filters are used in hydraulic systems for separating solid materials from fluids and lubricating oils. They are intended for installation into pipelines and allow for the exchange of the filter element without operational interruption. The filters are suitable for use in potentially explosive atmospheres according to directive 2014/34/EU.

More detailed information:

Data sheet 51445

Technical data

Size			0063	0100	0130	0150	0160	0250
Operating pressure	p_{\max}	bar						63
Flow	$q_{V\max}$	l/min	112	129	325	408	380	448
Filter rating	nominal	μm						10 ... 100
	absolute	μm						3 ... 20
Device group and category according to directive 2014/34/EU								II 2G, II 2D
Type of protection						Ex II 2G c IIB TX, Ex II 2D c IIB TX		
Standard for explosion protection								EN 13463-5
Ambient temperature range	θ	$^{\circ}\text{C}$						$-10 \dots +65$
Hydraulic fluid temperature range	θ	$^{\circ}\text{C}$						$-10 \dots +100$

Hägglunds DUE



- ▶ Maximum flow
 - 3000 l/min at 50 Hz
 - 3600 l/min at 60 Hz
- ▶ Maximum operating pressure 350 bar [5076 psi]
- ▶ Frame size: Compact, Small, Medium and Large
- ▶ Hydraulic assembly with 1 - 3 fields
- ▶ Pump size 40 ... 750 ccm
- ▶ Assembly with 1 - 4 pumps

Features

- ▶ Modular set-up
- ▶ Closed, noise-insulated cabinet
- ▶ Vertical installation - low footprint
- ▶ Configurable for numerous applications and customer requirements
- ▶ Equipped with the latest Hägglunds control systems

Product description

The DUE drive unit from Hägglunds DUE supplies power by means of a variable flow to the radial piston hydraulic motors. The proven modular solution offers high flexibility, maximum operating time as well as uncomplicated and quick maintenance. The drive unit is suitable for use in potentially explosive atmospheres according to 2014/34/EU.

More detailed information:

15417-X-B1, 15325-WA, 15420-X-B2

Technical data

Operating pressure		p_{max}	bar	350
Flow	50 Hz	q_{Vmax}	l/min	3000
	60 Hz	q_{Vmax}	l/min	3600
Device group and category according to directive 2014/34/EU				II 3G
Type of protection				e, i, k, n IIB T3
Standard for explosion protection				EN13463-1, EN13463-8; EN60079-7, EN60079-11, EN60079-15; EN1127-1

Axial piston variable displacement pump

A4VSO...A



- ▶ Size 40 ... 250
- ▶ Series 10, 11, and 30
- ▶ Nominal pressure 350 bar
- ▶ Maximum displacement for single pumps: 250 cm³
- ▶ Pump combinations are possible according to data sheet 92050

Features

- ▶ Axial piston swash plate design
- ▶ Good suction behavior
- ▶ Low noise level
- ▶ Long life cycle
- ▶ Short control time
- ▶ Type of protection "c" (structural safety)
- ▶ Type of protection "k" (liquid immersion)

Product description

The variable displacement pump A4VSO...A is suitable for hydrostatic drives in the open circuit. The flow is proportional to the drive speed and to the displacement and increases upon adjustment of the swash plate from zero to its maximum value.

The pump is suitable for use in potentially explosive atmospheres according to directive 2014/34/EU.

More detailed information:

Data sheet 92050-01-X-B2

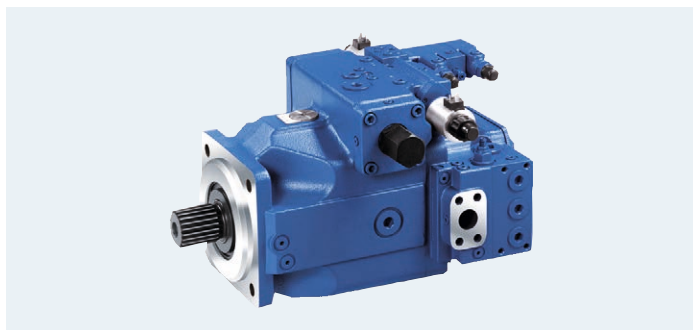
Technical data

Size	NG		40	71	125	180	250
Displacement	$V_{g \max}$	cm ³	40	71	125	180	250
Series			10/11	10/11	30	30	30
Nominal pressure	p_{nom}	bar					350
Peak pressure	p_{max}	bar					400
Device group and category according to directive 2014/34/EU							II 3G
Type of protection							ck IIC Tx
Standard for explosion protection							DIN EN 13463-1, -5, -8
Hydraulic fluid temperature range							
for temperature class T3	θ	°C					-20 ... +90
for temperature class T4	θ	°C					-20 ... +80

Axial piston variable displacement pump

A4CSG...A (3G)

A4CSG...R (2G)



- ▶ Size 250, 355 and 500
- ▶ Series 30
- ▶ Nominal pressure 350 bar
- ▶ Maximum displacement for single pumps: 500 cm³
- ▶ Pump combinations are possible according to data sheet 92105

Features

- ▶ Axial piston swash plate design
- ▶ Good suction behavior
- ▶ Low noise level
- ▶ Long life cycle
- ▶ Short control time
- ▶ Type of protection "c" (structural safety)
- ▶ Type of protection "k" (liquid immersion)
- ▶ Type of protection "b" (ignition source monitoring)

Product description

Variable displacement pumps A4CSG...A and A4CSG...R are suitable for hydrostatic drives in the closed circuit. The flow is proportional to the drive speed and to the displacement and increases upon adjustment of the swash plate from zero to its maximum value.

The pump is suitable for use in potentially explosive atmospheres according to directive 2014/34/EU.

More detailed information:

Data sheet 92105-01-X-B2

Technical data

Size	NG		250	355	500
Displacement	$V_{g \max}$	cm ³	250	355	500
Series			30	30	30
Nominal pressure	p_{nom}	bar			350
Peak pressure	p_{max}	bar			400
Device group and category according to directive 2014/34/EU					II 2G / II 3G
Type of protection					ck IIC Tx (3G) / bck IIC Tx (2G)
Standard for explosion protection					DIN EN 13463-1, -5, -6, -8 (2G) / DIN EN 13463-1, -5, -8 (3G)
Hydraulic fluid temperature range	θ	°C			-20 ... +80

Axial piston variable displacement pump

A10VSO...A



- ▶ Size 18 ... 100
- ▶ Series 31
- ▶ Nominal pressure 280 bar
- ▶ Maximum displacement for single pumps: 100 cm³
- ▶ Pump combinations are possible according to data sheet 92711

Features

- ▶ Axial piston swash plate design
- ▶ Good suction behavior
- ▶ Low noise level
- ▶ Long life cycle
- ▶ Short control time
- ▶ Type of protection "c" (structural safety)
- ▶ Type of protection "k" (liquid immersion)

Product description

The variable displacement pump A10VSO...A is suitable for hydrostatic drives in the open circuit. The flow is proportional to the drive speed and to the displacement and increases upon adjustment of the swash plate from zero to its maximum value.

The pump is suitable for use in potentially explosive atmospheres according to directive 2014/34/EU.

More detailed information:

Data sheet 92711-01-X-B2

Technical data

Size	NG		18	28	45	71	100
Displacement	$V_{g \max}$	cm ³	18	28	45	71	100
Series			31	31	31	31	31
Nominal pressure	p_{nom}	bar					280
Peak pressure	p_{max}	bar					350
Device group and category according to directive 2014/34/EU							II 3G
Type of protection							ck IIC Tx
Standard for explosion protection							DIN EN 13463-1, -5, -8
Hydraulic fluid temperature range	θ	°C					-20 ... +90

Axial piston constant motor

A2FM...A (3G)

A2FM...R (2G)



- ▶ Size 10 ... 180
- ▶ Series 63
- ▶ Nominal pressure 400 bar
- ▶ Open and closed circuit

Features

- ▶ Use in mobile and stationary application ranges
- ▶ Axial tapered piston bent axis design
- ▶ Robust motor with long life cycle
- ▶ High start-up efficiency
- ▶ Good low speed behavior
- ▶ Approved for very high speeds
- ▶ Type of protection "c" (structural safety)
- ▶ Type of protection "k" (liquid immersion)

Product description

Constant motors A2FM...A and A2FM...R are suitable for hydrostatic drives in the closed circuit. The output speed depends on the pump flow and motor displacement. The output torque is increased with the pressure differential between the high and low-pressure side and with increasing displacement.

The motors are suitable for use in potentially explosive atmospheres according to directive 2014/34/EU.

More detailed information:

Data sheet 91001-01-X-B2

Technical data

Size	NG		10	12	16	23	28	32	45	56	63	80	90	107	125	160	180	
Displacement	V_g	cm ³	10.3	12	16	22.9	28.1	32	45.6	56.1	63	80.4	90	106.7	125	160.4	180	
Nominal pressure	p_{nom}	bar																400
Peak pressure	p_{max}	bar																450
Device group and category according to directive 2014/34/EU																		II 2G / II 3G
Type of protection																		ck IIB Tx
Standard for explosion protection																		DIN EN 13463-1, -5,
Hydraulic fluid temperature range																		
for temperature class T3	θ	°C																-25 ... +90
for temperature class T4	θ	°C																-25 ... +70

Axial piston variable displacement motor

A6VLM....A (3G)

A6VLM....R (2G)



- ▶ Size 500
- ▶ Series 63
- ▶ Nominal pressure 350 bar
- ▶ Open and closed circuit

Features

- ▶ Use in mobile and stationary application ranges
- ▶ Axial tapered piston bent axis design
- ▶ Robust motor with long life cycle
- ▶ High start-up efficiency
- ▶ Good low speed behavior
- ▶ Approved for very high speeds
- ▶ Type of protection "c" (structural safety)
- ▶ Type of protection "k" (liquid immersion)
- ▶ Type of protection "b" (ignition source monitoring)

Product description

Variable displacement motors A6VLM...A and A6VLM...R are suitable for hydrostatic drives in the closed circuit. The output speed depends on the pump flow and motor displacement. The output torque is increased with the pressure differential between the high and low-pressure side and with increasing displacement.

The motors are suitable for use in potentially explosive atmospheres according to directive 2014/34/EU.

More detailed information:

Data sheet 91604-01-X-B2

Technical data

Size	NG		500
Displacement	$V_{g \max}$	cm ³	500
Series			63
Nominal pressure	p_{nom}	bar	350
Peak pressure	p_{max}	bar	400
Device group and category according to directive 2014/34/EU			II 2G / II 3G
Type of protection			ck IIC Tx (3G) / bck IIC Tx (2G)
Standard for explosion protection			DIN EN 13463-1, -5, -6, -8 (2G) / DIN EN 13463-1, -5, -8 (3G)
Hydraulic fluid temperature range			
for temperature class T3	θ	°C	-20 ... +90
for temperature class T4	θ	°C	-20 ... +80

Radial piston motors

Häggglunds CBM



- ▶ Size 2000 ... 6000
- ▶ Displacement 75838 ... 380133 cm³/rev
- ▶ Specific torque 1200 ... 6000 Nm/bar
- ▶ Rated speed 8 ... 53 rpm
- ▶ Maximum operating pressure 350 bar

Features

- ▶ The most powerful direct drive worldwide
- ▶ Torque increased by 50 % – now up to 1970 kNm
- ▶ High specific torque
- ▶ Modular design

Product description

The Häggglunds CBM hydraulic motor is a slow-running motor for direct assembly at the output shaft. This compact motor provides reliable power at full torque and as of zero speed, is protected against shock loads and suitable for use in potentially explosive atmospheres according to directive 2014/34/EU.

More detailed information:

15417-X-B1, 15300-WA, 15440-X-B2

Technical data

Type / design			CBM 2000	CBM 3000	CBM 4000	CBM 5000	CBM 6000
Displacement	$V_{g \max}$	cm ³	75838 ... 126732	138670 ... 190066	201565 ... 253464	290849 ... 316798	354246 ... 380133
Operating pressure	p_{\max}	bar	350	350	350	350	350
Speed	n_{\max}	min ⁻¹	53 ... 30	27 ... 18	16 ... 13	11 ... 10	8
Torque	T_s	Nm	1200 ... 2000	2200 ... 3000	3200 ... 4000	4600 ... 5000	5600 ... 6000
Device group and category according to directive 2014/34/EU							II 2GD, I M2
Type of protection							c, k IIB T4
Standard for explosion protection							EN13463-1, EN13463-5, EN13463-8; EN1710; EN1127-1, EN1127-2

Radial piston motors

Häggglunds CB



- ▶ Size 280 ... 1120
- ▶ Displacement 15100 ... 70400 cm³/rev
- ▶ Specific torque 240 ... 1120 Nm/bar
- ▶ Rated speed 20 ... 94 rpm
- ▶ Maximum operating pressure 350 bar

Features

- ▶ Compact design and low weight
- ▶ High torque-weight ratio
- ▶ Resistant against shock loads
- ▶ Right through hollow shaft
- ▶ Various mounting options

Product description

The Häggglunds CB hydraulic motor enables direct assembly at the output shaft. This compact motor provides reliable power at full torque and as of zero speed, is protected against shock loads and suitable for use in potentially explosive atmospheres according to directive 2014/34/EU.

More detailed information:

15417-X-B1, 15301-WA, 15440-X-B2

Technical data

Type / design			CB 280	CB 400	CB 560	CB 840	CBM 1120
Displacement	$V_{g \max}$	cm ³	15100 ... 17600	15100 ... 35200	27600 ... 35200	37700 ... 52800	55300 ... 70400
Operating pressure	p_{\max}	bar	350	250 ... 350	350	350	350
Speed	n_{\max}	min ⁻¹	68 ... 58	105 ... 53	65 ... 53	45 ... 32	34 ... 27
Torque	T_s	Nm	240 ... 280	240 ... 560	440 ... 560	600 ... 840	880 ... 1120
Device group and category according to directive 2014/34/EU							II 2GD, I M2
Type of protection							c, k IIB T4
Standard for explosion protection							EN13463-1, EN13463-5, EN13463-8; EN1710; EN1127-1, EN1127-2

Radial piston motors Hägglands CBP



- ▶ Size 140 ... 840
- ▶ Displacement 5024 ... 52800 cm³/rev
- ▶ Specific torque 80 ... 840 Nm/bar
- ▶ Rated speed 80 ... 320 rpm
- ▶ Maximum operating pressure 350 bar

Features

- ▶ High performance capability
- ▶ Compact design and low weight
- ▶ Higher speeds at higher efficiency
- ▶ Resistant against shock loads
- ▶ Right through hollow shaft

Product description

The Hägglands CBP hydraulic motor offers high torque at higher speeds and enables direct assembly at the output shaft. This compact motor provides reliable power at full torque and as of zero speed, is protected against shock loads and suitable for use in potentially explosive atmospheres according to directive 2014/34/EU.

More detailed information:

15417-X-B1, 15301-WA, 15440-X-B2

Technical data

Type / design			CBP 140	CB 280	CBP 400	CBP 560	CBP 840
Displacement	$V_{g \max}$	cm ³	5024 ... 8800	10100 ... 17600	15100 ... 25100	27600 ... 35200	37700 ... 52800
Operating pressure	p_{\max}	bar	350	350	350	350	350
Speed	n_{\max}	min ⁻¹	400 ... 275	170	170	135	135 ... 115
Torque	T_s	Nm	80 ... 14	160 ... 280	240 ... 400	440 ... 560	600 ... 840
Device group and category according to directive 2014/34/EU							II 2GD, I M2
Type of protection							c, k IIB T4
Standard for explosion protection							EN13463-1, EN13463-5, EN13463-8; EN1710; EN1127-1, EN1127-2

Radial piston motors

Häggglunds CA



- ▶ Size 50 ... 210
- ▶ Displacement 1256 ... 13200 cm³/rev
- ▶ Specific torque 20 ... 210 Nm/bar
- ▶ Rated speed 85 ... 400 rpm
- ▶ Maximum operating pressure 350 bar

Features

- ▶ Compact design and low weight
- ▶ High torque-weight ratio
- ▶ Resistant against shock loads
- ▶ Right through hollow shaft
- ▶ Various mounting options

Product description

The Häggglunds CA hydraulic motor enables direct assembly at the output shaft. This compact motor provides reliable power at full torque and as of zero speed, is protected against shock loads and suitable for use in potentially explosive atmospheres according to directive 2014/34/EU.

More detailed information:

15417-X-B1, 15302-WA, 15440-X-B2

Technical data

Type / design			CA 50	CA 70	CA 100	CA 140	CA 210
Displacement	$V_{g \max}$	cm ³	1256 ... 3140	2512 ... 4400	2512 ... 6280	5024 ... 8800	1005 ... 13200
Operating pressure	p_{\max}	bar	350	350	350	350	350
Speed	n_{\max}	min ⁻¹	400 ... 280	400 ... 240	400 ... 270	340 ... 220	150 ... 115
Torque	T_s	Nm	20 ... 50	40 ... 70	40 ... 100	80 ... 140	160 ... 210
Device group and category according to directive 2014/34/EU							II 2GD, I M2
Type of protection							c, k IIB T4
Standard for explosion protection							EN13463-1, EN13463-5, EN13463-8; EN1710; EN1127-1, EN1127-2

Radial piston motors

Hägglands VI



- ▶ Size 3300 ... 38000
- ▶ Displacement 3325 ... 38000 cm³/rev
- ▶ Specific torque 53 ... 605 Nm/bar
- ▶ Rated speed 25 ... 100 rpm
- ▶ Maximum operating pressure 250/320 bar

Features

- ▶ Direct drive - direct brake
- ▶ Genuinely free movement
- ▶ Outstanding controllability
- ▶ Low moment of inertia
- ▶ Full torque over the entire speed range

Product description

The Hägglands VI hydraulic motor is a slow-running motor for direct assembly at a winch drum or shaft. This compact motor provides reliable power at full torque and as of zero speed, is protected against shock loads and suitable for use in potentially explosive atmospheres according to directive 2014/34/EU.

More detailed information:

15417-X-B1, 15310-WA, 15440-X-B2

Technical data

Type / design			VI 44	VI 64	VI 84
Displacement	$V_{g \max}$	cm ³	3325 ... 9240	11080 ... 16340	14840 ... 38000
Operating pressure	p_{\max}	bar	320	320/250	320/250
Speed	n_{\max}	min ⁻¹	200 ... 145	120 ... 100	90 ... 60
Torque	T_s	Nm	53 ... 147	176 ... 260	236 ... 605
Device group and category according to directive 2014/34/EU					II 2GD, I M2
Type of protection					c, k IIB T4
Standard for explosion protection			EN13463-1, EN13463-5, EN13463-8; EN1710; EN1127-1, EN1127-2		

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