

hawle

KRAMMER **PRODUCTS**



HAWLE. **MADE FOR GENERATIONS.**

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Above ground hydrant

EURO 2000-RW 0, rigid
EURO 2000-RW 0, above ground break away design
DUO, rigid
DUO, above ground break away design

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Old town hydrant

EURO 2000-RW 0, rigid
EURO 2000-RW 0, above ground break away design

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Tunnel hydrant

EURO 2000-RW 0, portal hydrant
EURO 2000-RW 0, with 2 outlets
EURO 2000-RW 0, with 4 outlets
EURO 2000-RW 0, with 2 outlets, 120° offset

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DUO Gost
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Drinking fountain

Old town drinking fountain, Nostalgia

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Service valve

With internal thread on both sides
Pre and post-meter valve with hand wheel
With push-on ISO socket on both sides for PE pipes
With internal and external thread

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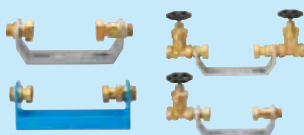


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Water meter installation brackets / sets

Installation bracket for cold water meter
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ISO pipe fitting

Fittings for PE pipes

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Accessories

Extension unit, plug-in back flow preventer
Rigid extension spindle, telescopic extension spindle

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Multi-range connection for all common types of pipes

KRAMMER-Easy-Connect COUPLING
KRAMMER-Easy-Connect FLANGE ADAPTOR

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A traditional family-owned company looking ahead to the future.

Hawle, a purely family-owned company founded in 1948, is the worldwide leader in the production of an extensive product range of valves, fittings and connecting pieces. Hawle is a leading innovator in the development of high-quality valve solutions. The company produces durable, high-performance quality valves and fittings for the construction and operation of water pipes, as well as the required accessories and equipment. During manufacture, Hawle adheres to European standards and related regulations.

Since 2014 we are manufacturing our Krammer brand products at the Hawle production sites.

An excellent understanding of the manufacturing process and the production requirements, extensive knowledge in gas and water supply, years of experience and a broad service program enables us to produce optimum products for pipe connections in all areas of international gas and water supply.

Our leading position in terms of both innovation and quality is proven by the **10-year quality guarantee** provided for Hawle products in the drinking water sector.

The employees of our company, which has its registered office in Vöcklabruck (Austria), apply all their service and expert knowledge to research, design, development as well as the production process.

Hawle products are exclusively manufactured in Europe in the most up-to-date production facilities. More than 98% of the raw materials used in the products come from Europe. Hawle products are manufactured by well-trained specialists, thus guaranteeing careful monitoring of the quality in each phase of the production process. The majority of Hawle components are also produced by Hawle themselves. So the functionality and the quality is assured and guaranteed in each production step.

Hawle stands by the high quality, efficiency and durability of their products. Which is why customers all around the world have relied on us for generations.

For more details, visit **www.hawle.at**

100% Hawle 100% tested quality

We are constantly striving for improvements together with our partner companies all over the world. In order to achieve this we focus on the requirements of our customers, invest in the most up-to-date technology and offer professional service and technical support.

HAWLE has an excellent network of partners, which ensures an efficient and competent distribution of all our products. Our central warehouse in Frankenmarkt, Austria, supplies this network with numerous finished products, which are stored in over 10,000 pallet spaces.

The pipe connections which our technicians develop today will be used tomorrow for your secured water supply.

Hawle offers a competent, round-the-clock service. As soon as we receive your call we immediately put all our efforts into finding a solution to your problem.

HAWLE. **MADE FOR GENERATIONS.**



SYSTEM CERTIFIED

ISO 14001:2004
ISO 9001:2008
ISO 50001:2011

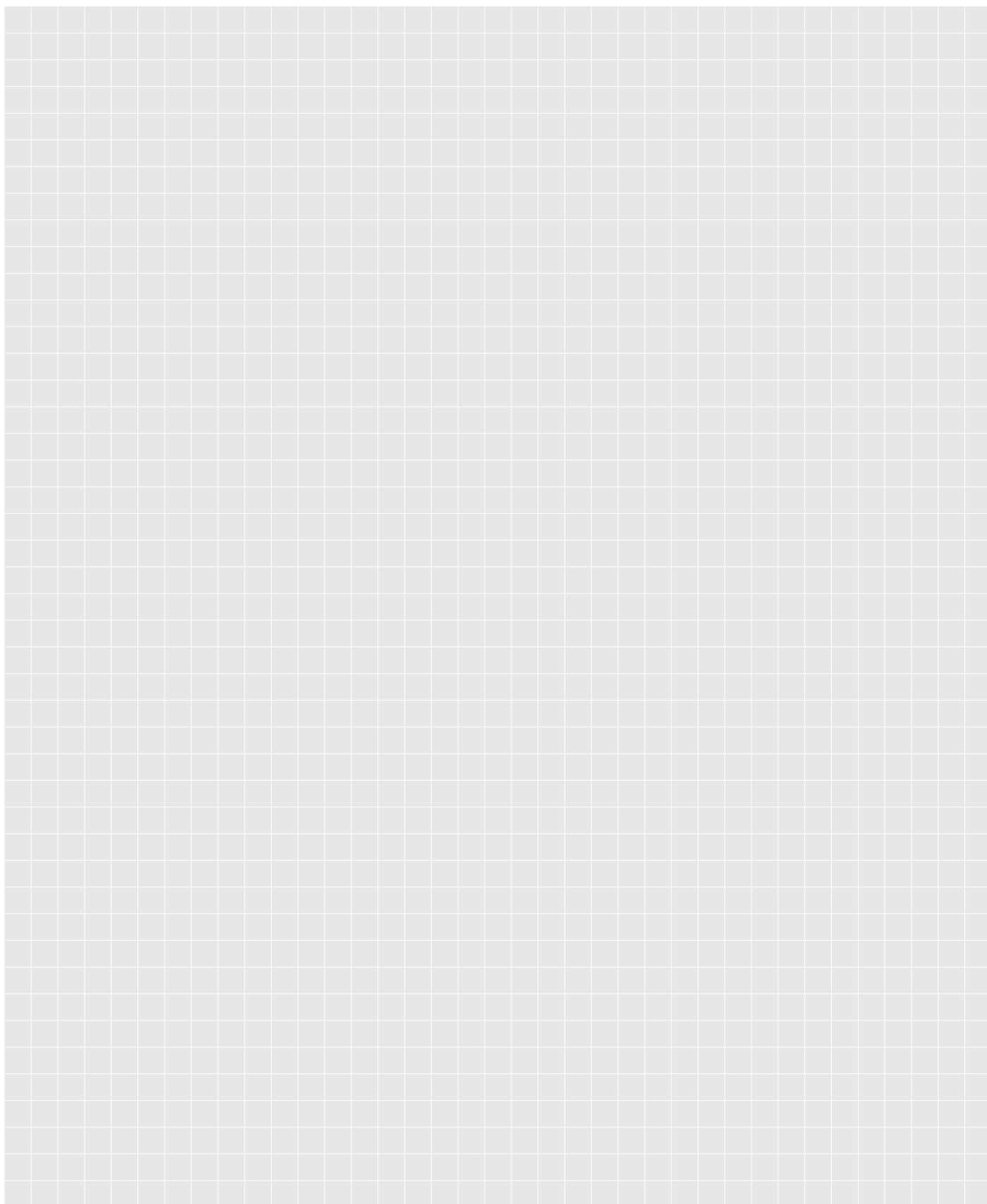
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Vöcklabruck plant
Austria



Frankenmarkt plant
Austria

A large rectangular area filled with a light gray grid pattern, intended for taking notes.

Above ground hydrant rigid



Construction characteristics

- Working pressure: max. 16 bar (PN 16)
- The valve plug ensures under-pressure protection and tightness in the brass seal seating ring through its vulcanised on elastomer sealing profile; with the opening stroke of the valve plug (50 mm) the function of the drainage with the under pressure protection is positively-controlled
- The head with the outlets can be rotated by 360° by loosening the 4 stainless steel bolts
- Complete drainage – residual water zero (RW 0)
- All internal parts are made of corrosion-resistant material and can be removed from above without excavating the hydrant
- Flange sized and drilled according to EN 1092-2 | PN 16

Material | Technical features

Hydrant head:	made of ductile iron, epoxy powder-coated on all sides + external powder-coating on polyester base (UV-resistant) in RAL 5003 (sapphire blue)
Stand pipe:	SGG made of steel , hot-dip galvanised on all sides + external 2-component PU coating NGG from stainless steel , polished
Hydrant base:	made of ductile iron, epoxy powder-coated on all sides
Operating pipe:	made of stainless steel
Valve plug:	made of brass / elastomer
Spindle:	made of stainless steel
Rate of flow: $K_v [m^3/h]$	$Q [m^3/h]$ at a differential pressure of 1 bar is higher than requested by EN 14384
Standard:	ÖNORM (Austrian standard) F 2010 - EN 14384, EN 1074-6
Max. working pressure:	16 bar (PN 16)
Standard pipe cover depth:	1,50 m (optionally 1,25 m and 1,00 m possible)
Residual water:	< EN 1074-6

Suitable accessories

Drainage pipe:	No. 5067
Flange duck foot bend:	No. 5045, No. 5046, No. 5049
Hydrant shut-off key:	No. 3460, No. 3461
Flat gasket:	No. 3390
Bolts:	No. 8810, No. 8830, No. 8840

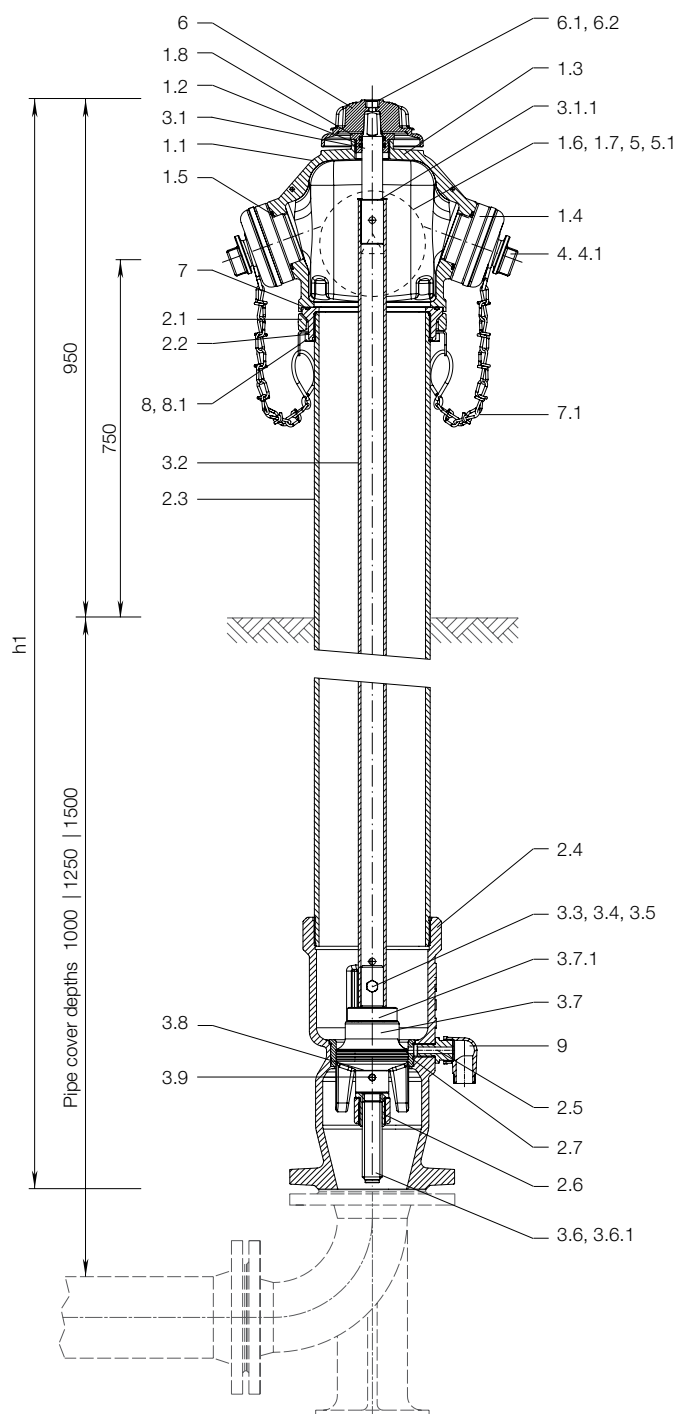
EURO 2000-RW 0 rigid design, SGG, NGG No. KR250



Fig.: NGG version

Order no.	DN	Outlet			Version	
		A	B	C	SGG	NGG
KR250	80		1	2		
			2			
	100	1	2			
			2			
	150	1	2			

Above ground hydrant rigid



	Series	Material
1.1	Hydrant head	Ductile iron
1.2	O-ring 25 x 3.5	Elastomer
1.3	Air valve	Brass
1.4	DN 80 coupling DIN 14317 - C1 52 mm DN 100 coupling DIN 14318 - B1 75 mm	Al
1.5	DN 80 O-ring 60 x 5 DN 100 O-ring 76 x 5	Elastomer
1.6	DN 80 coupling DIN 14318 - B1 75 mm DN 100 coupling DIN 14319 - A1 110 mm	Al
1.7	DN 80 O-ring 76 x 5 DN 100 O-ring 116 x 4	Elastomer
1.8	O-ring bush	Brass
2.1	Head ring	Ductile iron
2.2	Grip ring	Ductile iron
2.3	Stand pipe	Stainless steel, galvanised
2.4	Base	Ductile iron
2.5	Drain outlet	Brass
2.6	Spindle nut	Brass
2.7	Sealing seat ring	Brass
3.1	Square cap connection	Brass
3.1.1	Friction washer	Bronze
3.2	Operating pipe	Stainless steel
3.3	Hexagonal bolt M 8 x 45	Stainless steel
3.4	Lock nut	Stainless steel
3.5	Serrated lock washer	Stainless steel
3.6	Spindle	Stainless steel
3.6.1	O-ring 20.2 x 3.5	Elastomer
3.7	Valve plug	Brass/elastomer
3.7.1	Valve plug nut	Brass
3.8	Fixing ring	Brass
3.9	Pin	Brass
4	DN 80 cap DIN 14317 - C4 DN 100 cap DIN 14318 - B4	Al
4.1	DN 80 gasket DIN 14317-C3 DN 100 gasket DIN 14318-B3	Elastomer
5	DN 80 cap DIN 14318 - C4 DN 100 cap DIN 14319 - A4	Al
5.1	DN 80 gasket DIN 14318-B3 DN 100 gasket DIN 14319-A3	Elastomer
6	Operating cap	Al
6.1	Hex. socket head bolt M 8 x 16	Stainless steel
6.2	Isolating cap	PE
7	DN 80 O-ring 152 x 4 DN 100 175 x 4	Elastomer
7.1	Chain	Stainless steel
8	Hexagonal bolt M 16 x 45	Stainless steel
8.1	Washer M 16	Stainless steel
9	Drainage bend	Brass

DN	Pipe cover depth m	Outlets			h1	Connector flange sized and drilled according to EN 1092-2				Weight	
		A	B	C		D	k	Bolts	Quantity	SGG	NGG
80	1,25		1	2	2070	200	160	M 16	8	70	58
	1,50		1	2	2320					74	62
			2								
100	1,25	1	2		2070	220	180			98	96
	1,50	1	2		2320					101	101
150	1,50	1	2		2320	285	240	M 20	8	105	



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Above ground hydrant

Above ground break away design



Construction characteristics

- Working pressure: max. 16 bar (PN 16)
- The valve plug ensures under-pressure protection and tightness in the brass seal seating ring through its vulcanised elastomer sealing profile; with the opening stroke of the valve plug (50 mm) the function of the drainage with the under pressure protection is positively-controlled
- The heads with the outlets can be rotated by 360° by loosening the 4 stainless steel bolts
- Complete drainage – residual water zero (RW 0)
- All internal parts are made of corrosion-resistant material and can be removed from above without excavating the hydrant
- The hydrant type KR260 (above ground hydrant break away) has a split hydrant stand pipe with separating flange and break-off bolts;
In the separating area, the operating pipe has a length adjustment and a coupling piece to separate the upper and lower part
- When driving against the hydrant, the lower part is not damaged, and by replacing the break-off bolts the functionality can be quickly restored;
Water escape is excluded by the hydrant design
- Flange sized and drilled according to EN 1092-2 | PN 16

Material | Technical features

- Hydrant head:** made of ductile iron, epoxy powder-coated on all sides + external powder-coating on polyester base (UV-resistant) in RAL 5003 (sapphire blue)
- Stand pipe:** **SGG made of steel**, hot-dip galvanised on all sides + external 2-component PU-coating
NGG from stainless steel, polished
- Hydrant base:** made of ductile iron, epoxy powder-coated on all sides
- Operating pipe:** made of stainless steel
- Valve plug:** made of brass / elastomer
- Spindle:** made of stainless steel
- Rate of flow:** Q (m³/h) at a differential pressure of 1 bar is higher than requested by EN14384
 K_v [m³/h]
- Standard:** **ÖNORM (Austrian standard)**
F 2010 - EN 14384, EN 1074-6
- Max. working pressure:** 16 bar (PN 16)
- Standard pipe cover depth:** 1,50 m
(optionally 1,25 m and 1,00 m possible)
- Residual water:** < EN 1074-6

EURO 2000-RW 0

above ground break away design, SGG, NGG

No. KR260



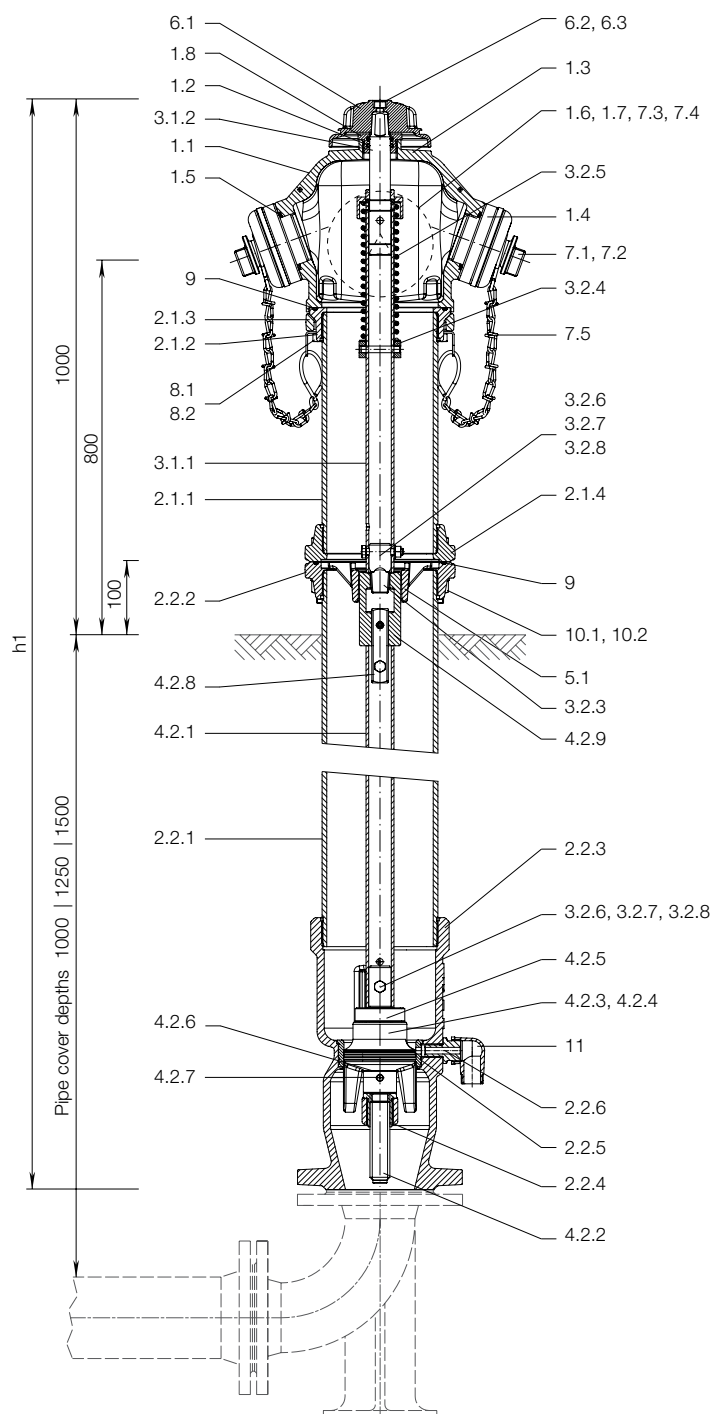
Fig.: SGG version

Order no.	DN	Outlet			Version	
		A	B	C	SGG	NGG
KR260	80		1	2		
			2			
	100	1	2			
			2			
	150	1	2			
			2			

Suitable accessories see page 6

Above ground hydrant

Above ground break away design



	Series	Material
1.1	Hydrant head	Ductile iron
1.2	O-ring 25 x 3.5	Elastomer
1.3	Air valve	Brass
1.4	DN 80 coupling DIN 14317 - C1 52 mm DN 100 coupling DIN 14318 - B1 75 mm	Al
1.5	DN 80 O-ring 60 x 5 DN 100 O-ring 76 x 5	Elastomer
1.6	DN 80 coupling DIN 14318 - B1 75 mm DN 100 coupling DIN 14319 - A1 110 mm	Al
1.7	DN 80 O-ring 76 x 5 DN 100 O-ring 116 x 4	Elastomer
1.8	O-ring bush	Brass
2.1.1	Stand pipe	Stainless steel, galvanised
2.1.2	Head ring	Ductile iron
2.1.3	Grip ring	Ductile iron
2.1.4	Top flange	Ductile iron
2.2.1	Stand pipe	Stainless steel, galvanised
2.2.2	Bottom flange	Ductile iron
2.2.3	Base	Ductile iron
2.2.4	Spindle nut	Brass
2.2.5	Sealing seat ring	Brass
2.2.6	Drain outlet	Brass
3.1.1	Top operating pipe	Stainless steel
3.1.2	Square cap connection	Brass
3.2.3	Square cap	Brass
3.2.4	Retaining ring	Brass
3.2.5	Spring	Stainless steel
3.2.6	Hexagonal bolt M 8 x 45	Stainless steel
3.2.7	Lock nut	Stainless steel
3.2.8	Serrated lock washer	Stainless steel
4.2.1	Operating pipe	Stainless steel
4.2.2	Spindle	Stainless steel
4.2.3	O-ring 20.2 x 3.5	Elastomer
4.2.4	Valve plug	Brass/elastomer
4.2.5	Valve plug nut	Brass
4.2.6	Fixing ring	Brass
4.2.7	Pin	Brass
4.2.8	Bypass square cap	Brass
4.2.9	Bypass nut (dumper nut)	Brass
5.1	Bar guide (dumper star)	Brass
6.1	Operating cap	Al
6.2	Hex. socket head bolt M 8 x 16	Stainless steel
6.3	Isolating cap	PE
7.1	DN 80 cap DIN 14318-C4 DN 100 cap DIN 14319-B4	Al
7.2	DN 80 gasket DIN 14318-C3 DN 100 gasket DIN 14319-B3	Elastomer
7.3	DN 80 cap DIN 14318-B4 DN 100 cap DIN 14319-A4	Al
7.4	DN 80 gasket DIN 14318-B3 DN 100 gasket DIN 14319-A3	Elastomer
7.5	Chain	Stainless steel
8.1	Hexagonal bolt M 16 x 45	Stainless steel
8.2	M16 plate	Stainless steel
9	DN 80 O-ring 152 x 4 DN 100 175 x 4	Elastomer
10.1	Break-off screw M 16 x 60	Stainless steel
10.2	Nut M 16	Stainless steel
11	Drainage bend ¾"	Brass

DN	Pipe cover depth m	Outlets			h1	Connector flange sized and drilled according to EN 1092-2				Weight	
		A	B	C		D	k	Bolts	Quantity	SGG	NGG
80	1,25		1	2	2070	200	160	M 16	8	78	66
	1,50		2	2	2320					82	70
100	1,25	1	2		2070	220	180	M 16	8	101	101
	1,50	1	2		2320					106	106
150	1,50	1	2		2320	285	240	M 20	8	109	



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Above ground hydrant rigid



Construction characteristics

- Working pressure: max. 16 bar (PN 16)
- Complete drainage - residual water zero (RW 0)
- All internal parts are made of corrosion-resistant material and can be removed without excavating the hydrant
- With ball double shut-off (optionally without ball double shut-off)
- Loose flange with integrated flange gasket enables the continuous 360° rotation of the hydrant for optimal installation
- Flange sized and drilled according to EN 1092-2 | PN 16

Material | Technical features

Hydrant head:	made of ductile iron, epoxy powder-coated on all sides + external powder-coating on polyester base (UV-resistant) in RAL 3000 (fire red)
Stand pipe:	SGG made of steel , hot-dip galvanised on all sides + external 2 components PU coating or NGG made of stainless steel , polished
Hydrant base:	made of ductile iron, epoxy powder-coated on all sides
Operating pipe:	made of stainless steel
Valve plug:	made of ductile iron / elastomer
Spindle:	made of stainless steel
Rate of flow: $K_v [m^3/h]$	$Q [m^3/h]$ at a differential pressure of 1 bar is higher than requested by EN14384
Standard:	ÖNORM (Austrian standard) F 2010 - EN 14384, EN 1074-6
Max. working pressure:	16 bar (PN 16)
Standard pipe cover depth:	1,50 m (optionally 1,25 m and 1,00 m possible)
Residual water:	< EN 1074-6

DUO rigid design, SGG, NGG No. KR220

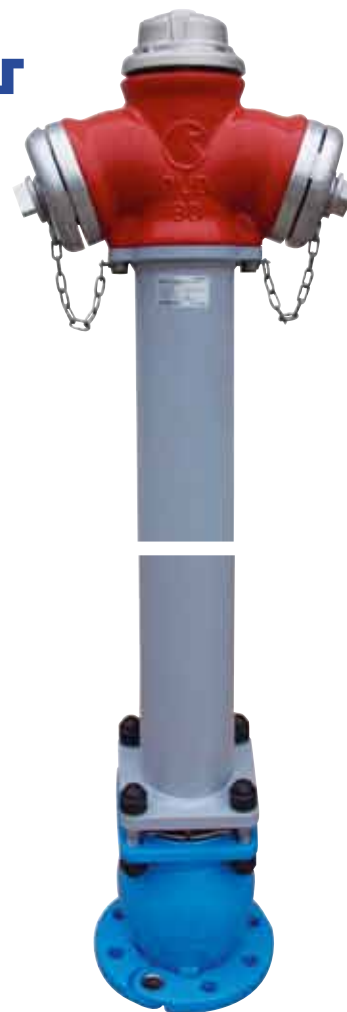
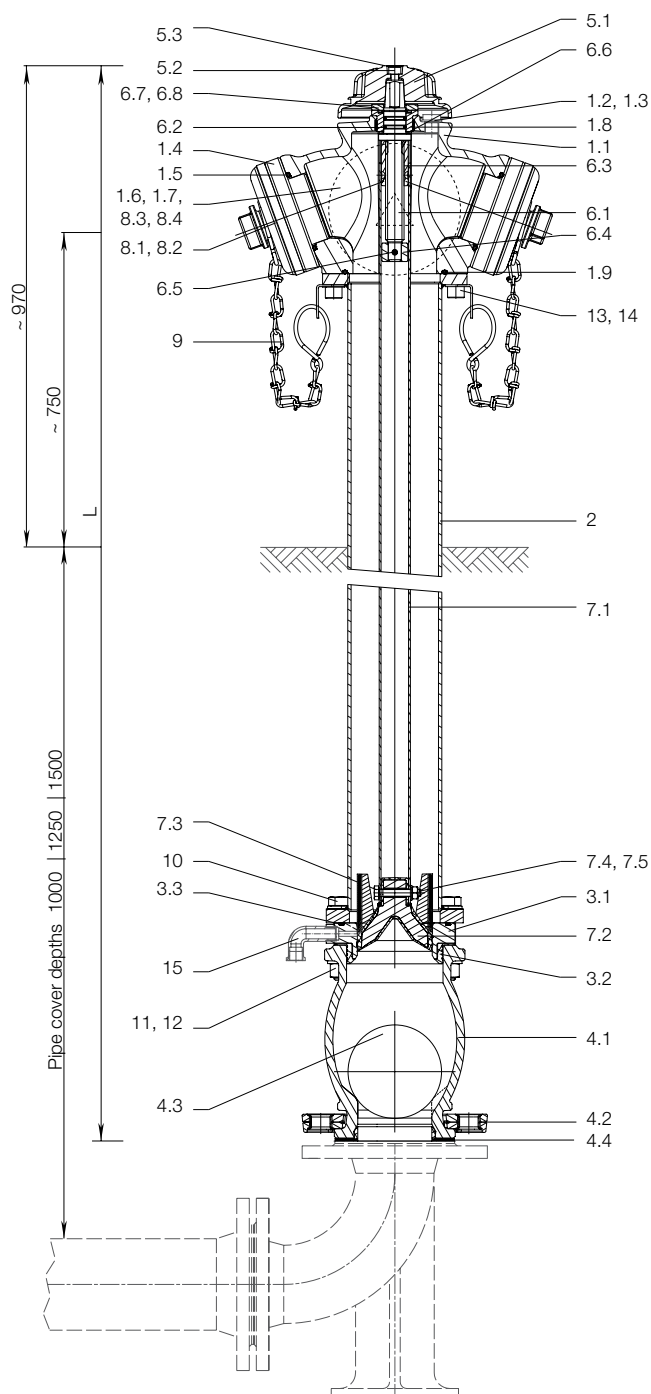


Fig.: SGG version

Order no.	DN	Outlet			Version	
		A	B	C	SGG	NGG
KR220	80		2			
			1	2		
	100	1	2			
			2			

Suitable accessories see page 6

Above ground hydrant rigid



DN	Pipe cover depth m	Outlets			L	Connector flange sized and drilled according to EN 1092-2				Weight	
		A	B	C		D	k	Bolts	Quantity	SGG	NGG
80	1,00	1	2	2	1850	200	160	M 16	8	37	34
	1,25	1	2	2	2100					39	35,5
	1,50	1	2	2	2350					41	37
100	1,00	1	2	2	1850	220	180	M 16	8	63	
	1,25	1	2	2	2100					65	
	1,50	1	2	2	2350					67	

	Series	Material
1.1	Hydrant head	Ductile iron
1.2	O-ring	Elastomer
1.3	Air valve	Brass
1.4	DN 80 coupling DIN 14317 - C1 52 mm DN 100 coupling DIN 14318 - B1 75 mm	Al
1.5	DN 80 O-ring 60 x 5 DN 100 O-ring 76 x 5	Elastomer
1.6	DN 80 coupling DIN 14318 - B1 75 mm DN 100 coupling DIN 14319 - A1 110 mm	Al
1.7	DN 80 O-ring 76 x 5 DN 100 O-ring 116 x 4	Elastomer
1.8	O-ring bush	Brass
1.9	O-ring	Elastomer
2	Stand pipe	Stainless steel or galvanised
3.1	Sealing seat ring	Stainless steel
3.2	Sealing seat ring seal	Elastomer
3.3	O-ring	Elastomer
4.1	Base	Ductile iron
4.2	Loose flange	Ductile iron
4.3	Ball	PP
4.4	Flat gasket	Elastomer
5.1	Operating cap	Al
5.2	Hex. socket head bolt M 8 x 16	Stainless steel
5.3	Isolating cap	PE
6.1	Spindle	Stainless steel
6.2	O-ring	Elastomer
6.3	Spindle nut	Brass
6.4	Nut	Brass
6.5	Pin	Stainless steel
6.6	Friction washer	POM
6.7	Fixing ring	Stainless steel
6.8	Distance ring	Brass
7.1	Operating pipe	Stainless steel
7.2	Valve plug	Ductile iron/elastomer
7.3	Hexagonal bolt M 8 x 45	Stainless steel
7.4	Lock nut M 8	Stainless steel
7.5	Serrated lock washer	Stainless steel
8.1	DN 80 cap DIN 14318-C4 DN 100 cap DIN 14319-B4	Al
8.2	DN 80 gasket DIN 14318-C3 DN 100 gasket DIN 14319-B3	Elastomer
8.3	DN 80 cap DIN 14318-B4 DN 100 cap DIN 14319-A4	Al
8.4	DN 80 gasket DIN 14318-B3 DN 100 gasket DIN 14319-A3	Elastomer
9	Chain	Stainless steel
10	Hexagonal bolt M 16 x 80	Stainless steel
11	Hexagonal nut M 16	Stainless steel
12	M16 plate	Stainless steel
13	Hex. socket head bolt M 12 x 30	Stainless steel
14	M 12 plate	Stainless steel
15	Drainage bend	Brass



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Above ground hydrant

Above ground break away design



Construction characteristics

- Working pressure: max. 16 bar (PN 16)
- Complete drainage - residual water zero (RW 0)
- All internal parts are made of corrosion-resistant material and can be removed without excavating the hydrant.
- With ball double shut-off (optionally without ball double shut-off)
- Simple assembly by loose flange and integrated flange gasket
- The hydrant type KR230 (above ground hydrant break away) has a split hydrant stand pipe with separating flange and break-off bolts
- Loose flange with integrated flange gasket enables continuous 360° rotation of the hydrant for optimal installation
- Flange sized and drilled according to EN 1092-2 | PN 16

Material | Technical features

Hydrant head:	made of ductile iron, epoxy powder-coated on all sides + external powder-coating on polyester base (UV-resistant) in RAL 3000 (fire red)
Stand pipe:	made of steel , hot-dip galvanised on all sides + external 2-component PU-coating
Hydrant base:	made of ductile iron, epoxy powder-coated on all sides
Operating pipe:	from stainless steel
Valve plug:	made of ductile iron / elastomer
Spindle:	made of stainless steel
Rate of flow: $K_v [m^3/h]$	Q (m³/h) at a differential pressure of 1 bar is higher than requested by EN14384
Standard:	ÖNORM (Austrian standard) F 2010 - EN 14384, EN 1074-6
Max. working pressure:	16 bar (PN 16)
Standard pipe cover depth:	1,50 m (optionally 1,25 m and 1,00 m possible)
Residual water:	< EN 1074-6

DUO

above ground break away design, SGG

No. KR230

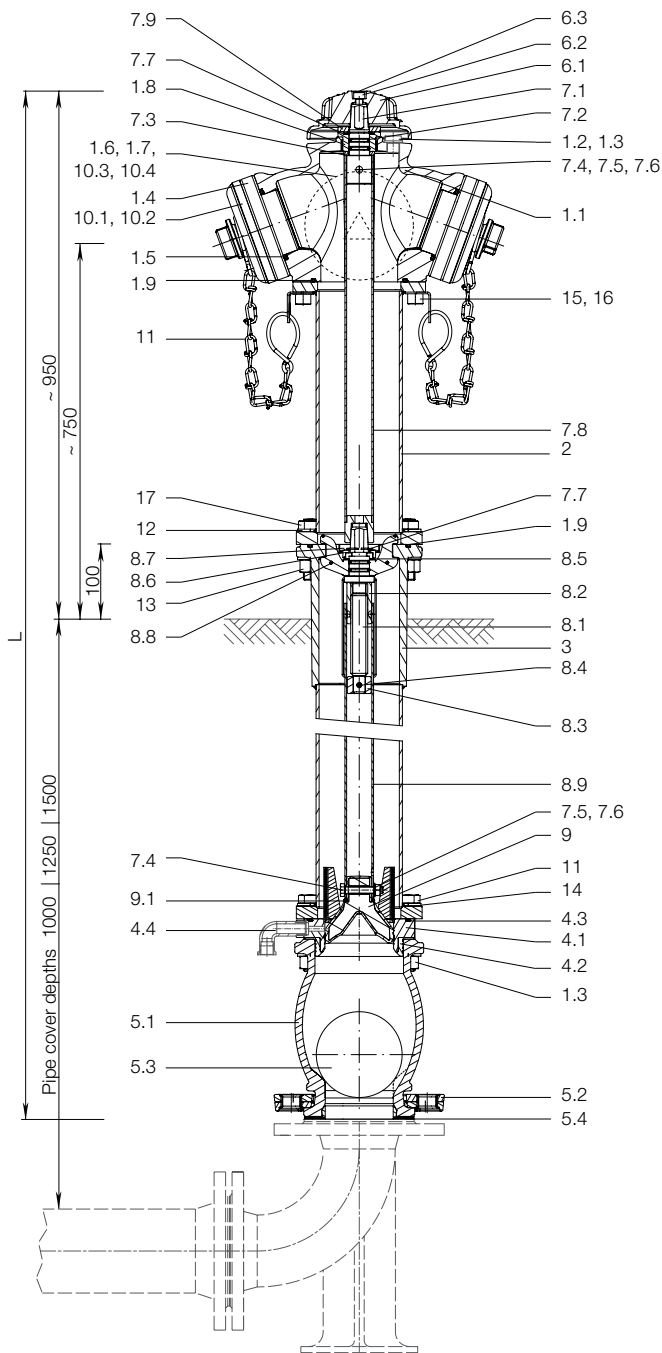


Order no.	DN	Outlet			SGG
		A	B	C	
KR230	80		2		
			1	2	
	100	1	2		
			2		

Suitable accessories see page 6

Above ground hydrant

Above ground break away design



DN	Pipe cover depth m	Outlets			L	Connector flange sized and drilled according to EN 1092-2				Weight		
		A	B	C		D	k	Bolts	Quantity			
80	1,00		1 2	2	1850	200	160	M 16	8	37		
	1,25		1 2	2	2100					38,5		
	1,50		1 2	2	2350					41		
100	1,00	1	2 2		1850	220	180			M 16	8	46
	1,25	1	2 2		2100							48
	1,50	1	2 2		2350							50

	Series	Material
1.1	Hydrant head	Ductile iron
1.2	O-ring	Elastomer
1.3	Air valve	Brass
1.4	DN 80 coupling DIN 14317 - C1 52 mm DN 100 coupling DIN 14318 - B1 75 mm	Al
1.5	DN 80 O-ring 60 x 5 DN 100 O-ring 76 x 5	Elastomer
1.6	DN 80 coupling DIN 14318 - B1 75 mm DN 100 coupling DIN 14319 - A1 110 mm	Al
1.7	DN 80 O-ring 76 x 5 DN 100 O-ring 116 x 4	Elastomer
1.8	O-ring bush	Brass
1.9	O-ring	Elastomer
2	Stand pipe	Galvanised steel
3	Stand pipe	Galvanised steel
4.1	Sealing seat ring	Stainless steel
4.2	Sealing seat ring seal	Elastomer
4.3	O-ring	Elastomer
4.4	Drainage bend	Brass
5.1	Base	Ductile iron
5.2	Loose flange	Ductile iron
5.3	Ball	PP
5.4	Flat gasket	Elastomer
6.1	Operating cap	Al
6.2	Hex. socket head bolt M 8 x 16	Stainless steel
6.3	Isolating cap	PE
7.1	Square cap connection	Stainless steel
7.2	O-ring	Elastomer
7.3	Friction washer	Brass
7.4	Hexagonal bolt M 8 x 45	Stainless steel
7.5	Lock nut M 8	Stainless steel
7.6	Serrated lock washer	Stainless steel
7.7	Fixing ring	Stainless steel
7.8	Operating pipe	Stainless steel
7.9	Fixing ring	Stainless steel
8.1	Spindle	Stainless steel
8.2	Spindle nut	Brass
8.3	Nut	Brass
8.4	Pin	Stainless steel
8.5	Friction washer	Brass
8.6	Half shell	Stainless steel
8.7	Sleeve for the half shell	Brass
8.8	Dumper body	Brass
8.9	Operating pipe	Stainless steel
9	Valve plug	Ductile iron/elastomer
9.1	Distance ring	Brass
10.1	DN 80 cap DIN 14318-C4 DN 100 cap DIN 14319-B4	Al
10.2	DN 80 gasket DIN 14318-C3 DN 100 gasket DIN 14319-B3	Elastomer
10.3	DN 80 cap DIN 14318-B4 DN 100 cap DIN 14319-A4	Al
10.4	DN 80 gasket DIN 14318-B3 DN 100 gasket DIN 14319-A3	Elastomer
11	Chain	Stainless steel
12	Hexagonal bolt M 16 x 80	Stainless steel
13	Hexagonal nut M 16	Stainless steel
14	M 16 plate	Stainless steel
15	Hex. socket head bolt M 12 x 30	Stainless steel
16	M 12 plate	Stainless steel
17	Break-off bolt	Stainless steel



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Old town hydrant

rigid



Construction characteristics

- Working pressure: max. 16 bar (PN 16)
- Complete drainage – residual water zero (RW 0)
- All internal parts are made of corrosion-resistant material and can be removed from above without excavating the hydrant
- The Krammer nostalgic hydrant (old town hydrant) was designed in the style of the turn of the 19th century
- Krammer old town hydrants offer the most modern technology in the design of the good old days
- The valve plug ensures under-pressure protection and tightness in the brass seal seating ring through its vulcanised elastomer sealing profile; with the opening stroke of the valve plug (50 mm) the function of drainage of the under-pressure protection is positively-controlled
- Flange sized and drilled according to EN 1092-2 | PN 16

Material | Technical features

Bonnet:	made of ductile iron, epoxy powder-coated on all sides + external 2-component PU coating layer. Standard colour: green (red or black on request)
Stand pipe:	SGG made of steel , hot-dip galvanised on all sides + external 2-component PU-coating NGG from stainless steel , polished
Hydrant base:	made of ductile iron, epoxy powder-coated on all sides
Operating pipe:	made of stainless steel
Valve plug:	made of brass / elastomer
Spindle:	made of stainless steel
Rate of flow: $K_v [m^3/h]$	$Q [m^3/h]$ at a differential pressure of 1 bar is higher than requested by EN14384
Standard:	ÖNORM (Austrian standard) F 2010 - EN 14384, EN 1074-6
Max. working pressure:	16 bar (PN 16)
Standard pipe cover depth:	1,50 m (optionally 1,25 m and 1,00 m possible)
Residual water:	< EN 1074-6

EURO 2000-RW 0 rigid design, SGG, NGG No. KR265



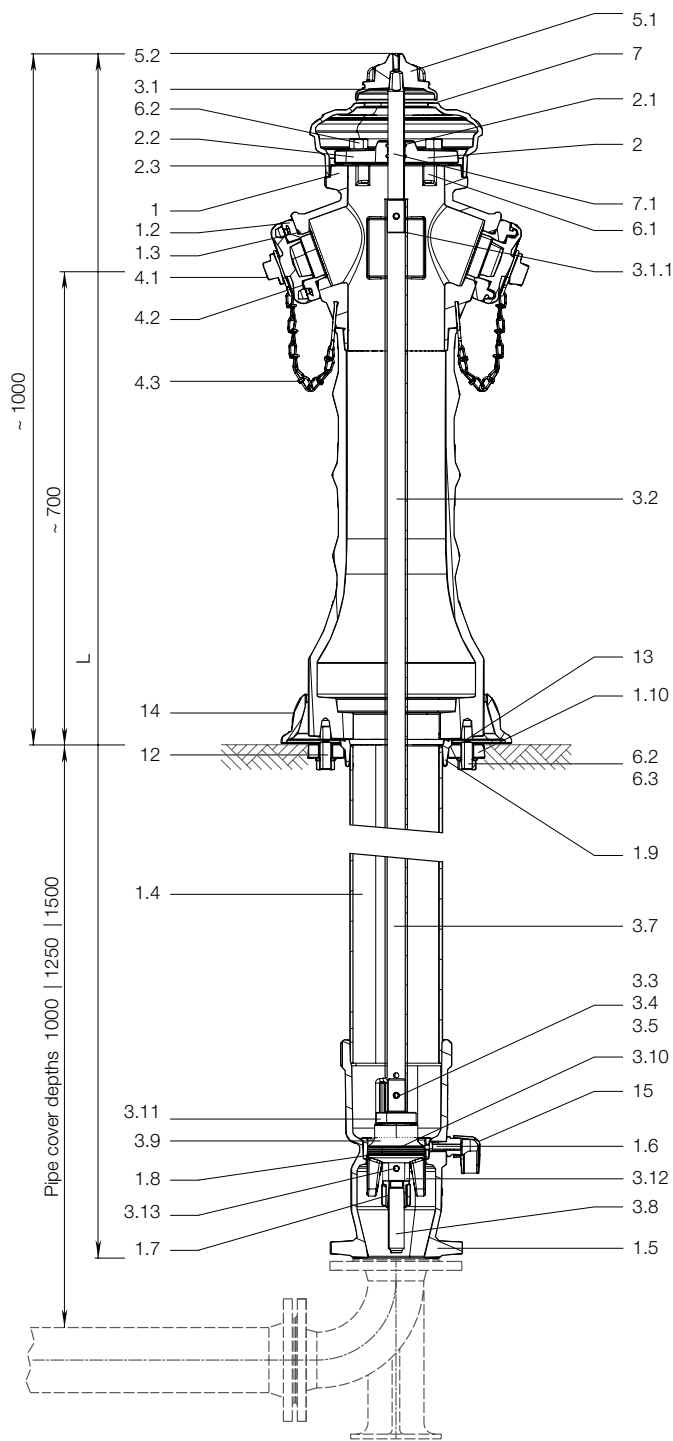
Fig.: SGG version

Order no.	DN	Outlet B	Version	
			SGG	NGG
KR265	80	2		
	100	2		

Suitable accessories see page 6

Old town hydrant

rigid



DN	Pipe cover depth m	Outlets B	L	Connector flange sized and drilled according to EN 1092-2				Weight	
				D	k	Bolts	Quantity	SGG	NGG
80	1,00	2	1970	200	160	M 16	8	99	
	1,25	2	2220					103	
	1,50	2	2470					107	
100	1,00	2	1970	220	180	M 16	8	123	
	1,25	2	2220					133	
	1,50	2	2470					143	

	Series	Material
1	"Old town" stand pipe BB	Ductile iron
1.2	B coupling	Al
1.3	O-ring	Elastomer
1.4	Stand pipe	Stainless steel, galvanised
1.5	Base	Ductile iron
1.6	Drain outlet	Brass
1.7	Spindle nut	Brass
1.8	Sealing seat ring	Brass
1.9	Head ring	Ductile iron
1.10	Fix flange	Ductile iron
2	Head plate	Ductile iron
2.1	O-ring	Elastomer
2.2	Air valve	Brass
2.3	Head plate gasket	Elastomer
3.1	Square cap connection	Stainless steel
3.1.1	Friction ring	Bronze
3.2	Operating pipe	Stainless steel
3.3	Hexagonal bolt M 8 x 45	Stainless steel
3.4	Lock nut M 8	Stainless steel
3.5	Serrated lock washer	Stainless steel
3.8	Spindle	Stainless steel
3.9	Valve plug	Brass / elastomer
3.10	O-ring	Elastomer
3.11	Valve plug nut	Brass
3.12	Lock washer	Brass
3.13	Pin	Brass
4.1	Cap	Al
4.2	Gasket	Elastomer
4.3	Chain	Stainless steel
5.1	Operating cap	Al
5.2	Wearing parts M 8 x 50	Stainless steel
6.1	Stud M 16	Stainless steel
6.2	Nut M 16	Stainless steel
6.3	Washer M 16	Stainless steel
7	"Old town" hood	Ductile iron
7.1	Cylindric bolt M 8 x 25	Stainless steel
12	Stud	Stainless steel
13	O-ring	Elastomer
14	Trim ring	Ductile iron
15	Drainage bend	Brass



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Old town bypass hydrant

Above ground break away design



Construction characteristics

- Working pressure: max. 16 bar (PN 16)
- Complete drainage – residual water zero (RW 0)
- All internal parts are made of corrosion-resistant material and can be removed from above without excavating the hydrant
- The Krammer nostalgic hydrant (old town hydrant) was designed in the style of the turn of the 19th century
- Krammer old town hydrants offer the most modern technology in the design of the good old days
- The valve plug ensures under-pressure protection and tightness in the brass seal seating ring through its vulcanised elastomer sealing profile; with the opening stroke of the valve plug (50 mm) the function of drainage of the under-pressure protection is positively-controlled
- The upper section can be rotated 360° by loosening the 4 stainless steel bolts
- Flange sized and drilled according to EN 1092-2 | PN 16

Material | Technical features

Upper section:	made of ductile iron, epoxy powder-coated on all sides + external 2-component PU coating layer. Standard colour: green (red or black on request)
Stand pipe:	SGG made of steel , hot-dip galvanised on all sides + external 2-component PU-coating NGG from stainless steel , polished
Hydrant base:	made of ductile iron, epoxy powder-coated on all sides
Operating pipe:	made of stainless steel
Valve plug:	made of brass / elastomer
Spindle:	made of stainless steel
Rate of flow: $K_v [m^3/h]$	Q (m ³ /h) at a differential pressure of 1 bar is higher than requested by EN14384
Standard:	ÖNORM (Austrian standard) F 2010 - EN 14384, EN 1074-6
Max. working pressure:	16 bar (PN 16)
Standard pipe cover depth:	1,50 m (optionally 1,25 m and 1,00 m possible)
Residual water:	< EN 1074-6

EURO 2000-RW 0

above ground break away design, SGG, NGG

No. KR266



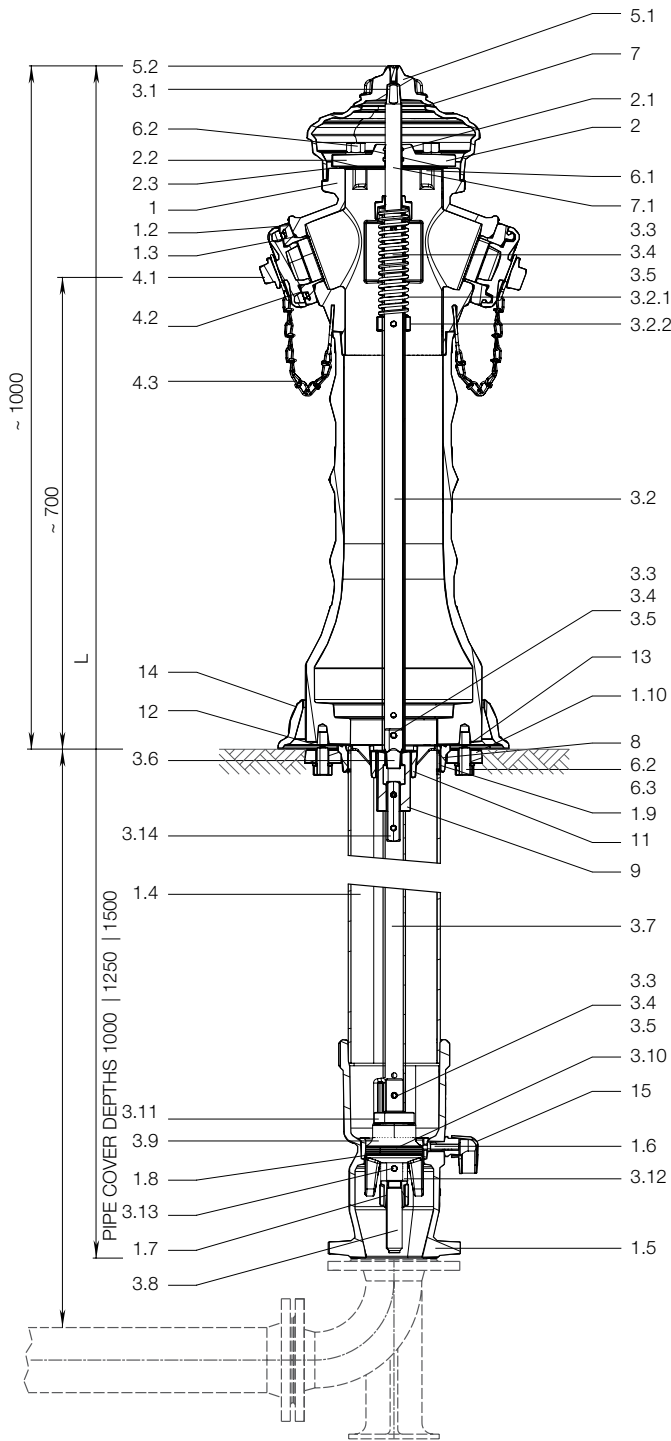
Fig.: SGG version

Order no.	DN	Outlet B	Version	
			SGG	NGG
KR266	80	2		
	100	2		

Suitable accessories see page 6

Old town bypass hydrant

Above ground break away design



DN	Pipe cover depth m	Outlets B	L	Connector flange sized and drilled according to EN 1092-2				Weight	
				D	k	Bolts	Quantity	SGG	NGG
80	1,00	2	1970	200	160	M 16	8	117	
	1,25	2	2220					121	
	1,50	2	2470					125	
100	1,00	2	1970	220	180	M 16	8	125	
	1,25	2	2220					135	
	1,50	2	2470					145	

	Series	Material
1	"Old town" stand pipe BB	Ductile iron
1.2	B coupling	Al
1.3	O-ring	Elastomer
1.4	Stand pipe	Stainless steel, galvanised
1.5	Base	Ductile iron
1.6	Drain outlet	Brass
1.7	Spindle nut	Brass
1.8	Sealing seat ring	Brass
1.9	Head ring	Ductile iron
1.10	Fix flange	Ductile iron
2	Head plate	Ductile iron
2.1	O-ring	Elastomer
2.2	Air release valve	Brass
2.3	Head plate gasket	Elastomer (NBR)
3.1	Square cap connection	Stainless steel
3.2	Operating pipe	Stainless steel
3.2.1	Pressure spring	Stainless steel
3.2.2	Retaining ring	Brass
3.3	Hexagonal bolt M 8 x 45	Stainless steel
3.4	Lock nut M 8	Stainless steel
3.5	Serrated lock washer	Stainless steel
3.6	Square cap (operating pipe)	Brass
3.7	Operating pipe	Stainless steel
3.8	Spindle	Stainless steel
3.9	Valve plug	Brass / elastomer
3.10	O-ring	Elastomer
3.11	Valve plug nut	Brass
3.12	Lock washer	Brass
3.13	Pin	Brass
3.14	Square cap (break away)	Brass
4.1	Cap DIN 14319-B3	Al
4.2	Gasket	Elastomer
4.3	Chain	Stainless steel
5.1	Operating cap	Al
5.2	Wearing parts M 8 x 50	Stainless steel
6.1	Stud M 16	Stainless steel
6.2	Nut M 16	Stainless steel
6.3	Washer M 16	Stainless steel
7	"Old town" hood	Ductile iron
7.1	Cylindric bolt M 8 x 25	Stainless steel
8	Bar guide (dumper star)	Brass
9	Dumper nut	Brass
11	Friction ring	Bronze
12	Break off bolt	Stainless steel
13	O-ring	Elastomer
14	Trim ring	Ductile iron
15	Drainage bend	Brass



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Tunnel hydrant

Portal hydrant



Construction characteristics

- Working pressure: max. 16 bar (PN 16)
- Complete drainage - residual water zero (RW 0)
- All internal parts made of corrosion-resistant material and can be removed upwards without excavating the hydrant
- Through their vulcanised elastomer sealing profile, the valve plug ensure under pressure protection and tightness in the brass seal seating ring; with the opening stroke of the valve plug (50 mm), the function of the drainage with under pressure protection is positively-controlled
- The head with the outlets can be rotated 360° by loosening the 4 stainless steel bolts
- Flange sized and drilled according to EN 1092-2 | PN 16

Material | Technical features

- Hydrant head:** made of ductile iron, epoxy powder-coated on all sides + external powder-coating on polyester base (UV-resistant) in RAL 5003 (sapphire blue)
- Stand pipe:** **SGG made of steel**, hot-dip galvanised on all sides + external zinc pigment coating
NGG from stainless steel, polished
- Hydrant base:** made of ductile iron, epoxy powder-coated on all sides
- Operating pipe:** made of stainless steel
- Valve plug:** made of brass / elastomer
- Spindle:** made of stainless steel
- Rate of flow:** Q (m³/h) at a differential pressure of 1 bar is higher than requested by EN14384
- Standard:** **ÖNORM (Austrian standard)**
F 2010 - EN 14384, EN 1074-6
- Max. working pressure:** 16 bar (PN 16)
- Standard pipe cover depth:** 1,50 m
(optionally 1,25 m and 1,00 m possible)
- Residual water:** < EN 1074-6

**EURO 2000-RW 0,
SGG, NGG
No. KR270**



Order no.	DN	Outlet			Version	
		A	B	C	SGG	NGG
KR270	80		1	2		
			2			
	100	1	2			
			2			

Suitable accessories see page 6



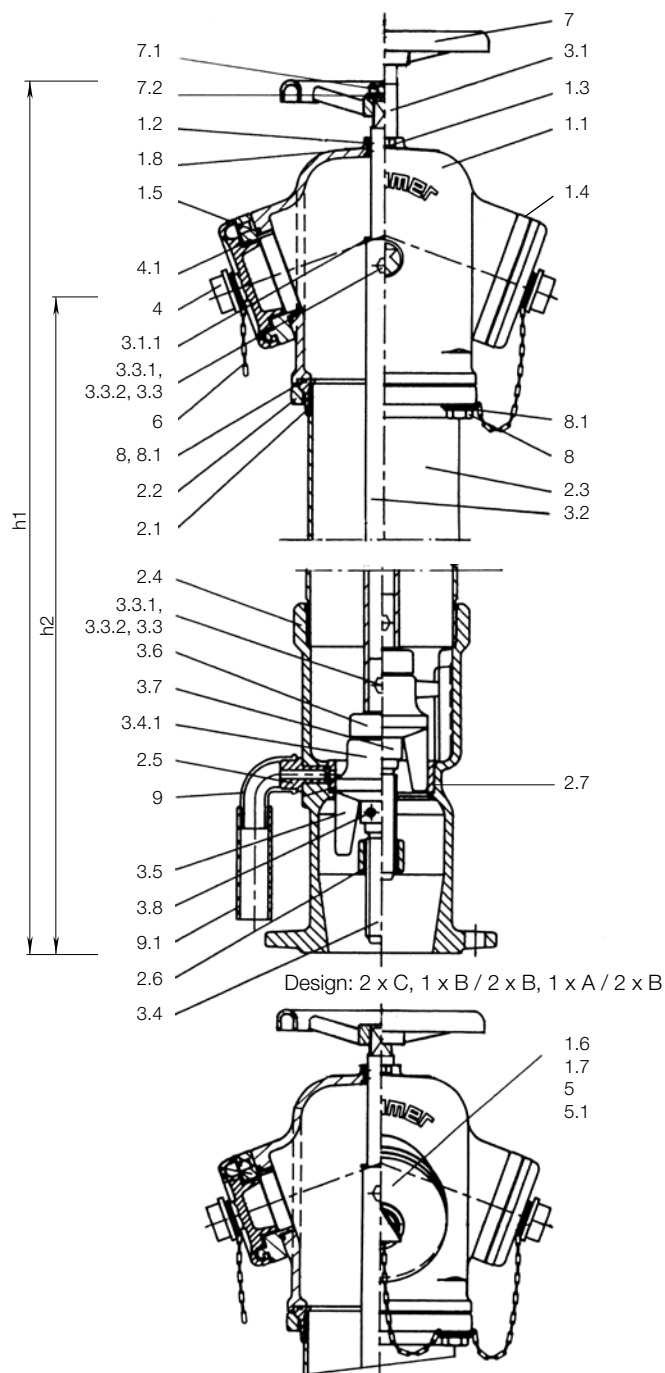
All outlets can also be supplied with fire cocks!

Tunnel hydrant

Portal hydrant



EURO 2000-RW 0,
SGG, NGG
No. KR270



DN	h1	h2	Weight	
			SGG	NGG
80	815	645	51	
100	815	610	67	

Other heights on request!

	Series	Material
1.1	Hydrant head	Ductile iron
1.2	O-ring 25 x 3.5	Elastomer
1.3	Air valve	Brass
1.4	DN 80 coupling DIN 14317 - C1 52 mm DN 100 coupling DIN 14318 - B1 75 mm	Al
1.5	DN 80 O-ring 60 x 5 DN 100 O-ring 76 x 5	Elastomer
1.6	DN 80 coupling DIN 14318 - B1 75 mm DN 100 coupling DIN 14319 - A1 110 mm	Al
1.7	DN 80 O-ring 76 x 5 DN 100 O-ring 116 x 4	Elastomer
1.8	O-ring bush	Brass
2.1	Head ring	Ductile iron
2.2	Grip ring	Ductile iron
2.3	Stand pipe	Stainless steel, galvanised
2.4	Base	Ductile iron
2.5	Drain outlet	Brass
2.6	Spindle nut	Brass
2.7	Sealing seat ring	Brass
3.1	Square cap connection	Brass
3.1.1	Friction washer	Bronze
3.2	Operating pipe	Stainless steel
3.3	Hexagonal bolt M 8 x 45	Stainless steel
3.3.1	Lock nut	Stainless steel
3.3.2	Serrated lock washer	Stainless steel
3.4	Spindle	Stainless steel
3.4.1	O-ring 20.2 x 3.5	Elastomer
3.5	Valve plug	Brass/elastomer
3.6	Valve plug nut	Brass
3.7	Fixing ring	Brass
3.8	Pin	Brass
4	DN 80 cap DIN 14317 - C4 DN 100 cap DIN 14318 - B4	Al
4.1	DN 80 gasket DIN 14317-C3 DN 100 gasket DIN 14318-B3	Elastomer
5	DN 80 cap DIN 14318 - C4 DN 100 cap DIN 14319 - A4	Al
5.1	DN 80 gasket DIN 14318-B3 DN 100 gasket DIN 14319-A3	Elastomer
6	Chain	Stainless steel
7	Hand wheel	Al
7.1	Hex. socket head bolt M 8 x 16	Stainless steel
7.2	Plate	Stainless steel
8	Hexagonal bolt M 16 x 45	Stainless steel
8.1	M16 plate	Stainless steel
9	Drainage bend	Brass
9.1	Outlet pipe 1"	PE



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Tunnel hydrant

with 2 outlets on top of each other



Construction characteristics

- Working pressure: max. 16 bar (PN 16)
- Complete drainage - residual water zero (RW 0)
- All internal parts made of corrosion-resistant material and can be removed upwards without excavating the hydrant
- Through their vulcanised elastomer sealing profile, the valve plug ensure under pressure protection and tightness in the brass seal seating ring; with the opening stroke of the valve plug (50 mm), the function of the drainage with under pressure protection is positively-controlled
- The head with the outlets can be rotated 360° by loosening the 4 stainless steel bolts
- Flange sized and drilled according to EN 1092-2 | PN 16

Material | Technical features

- Head and hand wheel:** made of ductile iron, epoxy powder-coated on all sides + external powder-coating on polyester base (UV-resistant) in RAL 3000 (fire red)
- Stand pipe:** **SGG made of steel**, hot-dip galvanised on all sides + external zinc pigment coating
NGG from stainless steel, polished
- Hydrant base:** made of ductile iron, epoxy powder-coated on all sides
- Operating pipe:** made of stainless steel
- Valve plug:** made of brass / elastomer
- Spindle:** made of stainless steel
- Rate of flow:** Q (m³/h) at a differential pressure of 1 bar is higher than requested by EN14384
 K_v [m³/h]
- Standard:** **ÖNORM (Austrian standard)**
F 2010 - EN 14384, EN 1074-6
- Max. working pressure:** 16 bar (PN 16)
- Residual water:** < EN 1074-6

EURO 2000-RW 0,
SGG, NGG
No. KR275



Fig.: SGG version



Order no.	DN	Outlet			Version	
		A	B	C	SGG	NGG
KR275	80		2			
			1	1		
	100	2		2		
		1	1			
			2			

Suitable accessories see page 6



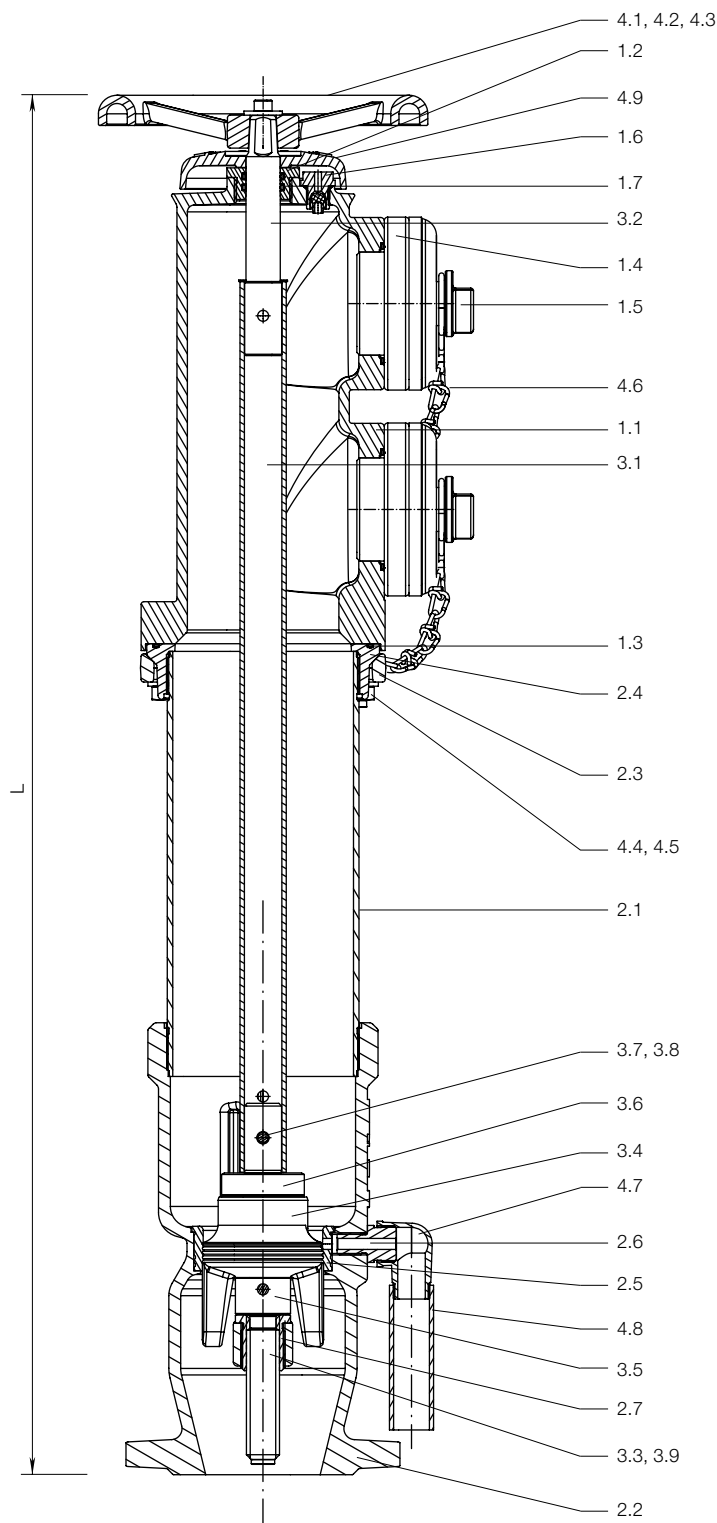
Optionally, all outlets can be provided with a fire cock

Tunnel hydrant

with 2 outlets on top of each other



EURO 2000-RW 0,
SGG, NGG
No. KR275



	Series	Material
1.1	Head	Ductile iron
1.2	O-ring bush	Brass
1.3	O-ring diameter 152 x 4	Elastomer
1.4	Coupling	Al
1.5	Cap	Al
1.6	Air valve	Brass
1.7	O-ring 25 x 3.5	Elastomer
2.1	Stand pipe	Stainless steel, galvanised
2.2	Base	Ductile iron
2.3	Grip ring	Ductile iron
2.4	Head ring 80	Ductile iron
2.5	Sealing seat ring	Brass
2.6	Drain outlet	Brass
2.7	Spindle nut	Brass
3.1	Operating pipe	Stainless steel
3.2	Square cap connection	Brass
3.3	Spindle	Stainless steel
3.4	Valve plug	Brass/elastomer
3.5	Lock washer	Brass
3.6	Valve plug nut	Brass
3.7	Hexagonal bolt M 8 x 45	Stainless steel
3.8	Hexagonal nut M 8	Stainless steel
3.9	O-ring 25 x 3.5	Elastomer
4.1	Hand wheel	Ductile iron
4.2	Hex. socket head bolt M 8 x 16	Stainless steel
4.3	Spring washer 8	Stainless steel
4.4	Hexagonal bolt M 16 x 45	Stainless steel
4.5	Washer	Stainless steel
4.6	Chain	Stainless steel
4.7	Drain bend	Brass
4.8	PE pipe 1"	PE
4.9	Tunnel head cover	Al

On order, every height from L min. to max. 3000 can be delivered.

DN	L min
80	800
100	1000



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Tunnel hydrant

with 4 outlets



Construction characteristics

- Working pressure: max. 16 bar (PN 16)
- Complete drainage - residual water zero (RW 0)
- All internal parts made of corrosion-resistant material and can be removed upwards without excavating the hydrant
- Through their vulcanised elastomer sealing profile, the valve plug ensure under pressure protection and tightness in the brass seal seating ring; with the opening stroke of the valve plug (50 mm), the function of the drainage with under pressure protection is positively-controlled
- The head with the outlets can be rotated 360° by loosening the 4 stainless steel bolts
- Flange sized and drilled according to EN 1092-2 | PN 16

Material | Technical features

Head and hand wheel: made of ductile iron, epoxy powder-coated on all sides + external powder-coating on polyester base (UV-resistant) in RAL 3000 (fire red)

Stand pipe: **SGG made of steel**, hot-dip galvanised on all sides + external zinc pigment coating,

NGG from stainless steel, polished

Hydrant base: made of ductile iron, epoxy powder-coated on all sides

Operating pipe: made of stainless steel

Valve plug: made of brass / elastomer

Spindle: made of stainless steel

Rate of flow: Q (m³/h) at a differential pressure of 1 bar is higher than requested by EN14384

Standard: **ÖNORM (Austrian standard) F 2010 - EN 14384, EN 1074-6**

Max. working pressure: 16 bar (PN 16)

Residual water: < EN 1074-6

**EURO 2000-RW 0,
SGG, NGG
No. KR276**



Order no.	DN	Outlet		Version	
		B	C	SGG	NGG
KR276	80	4			
		2	2		
			4		

Suitable accessories see page 6



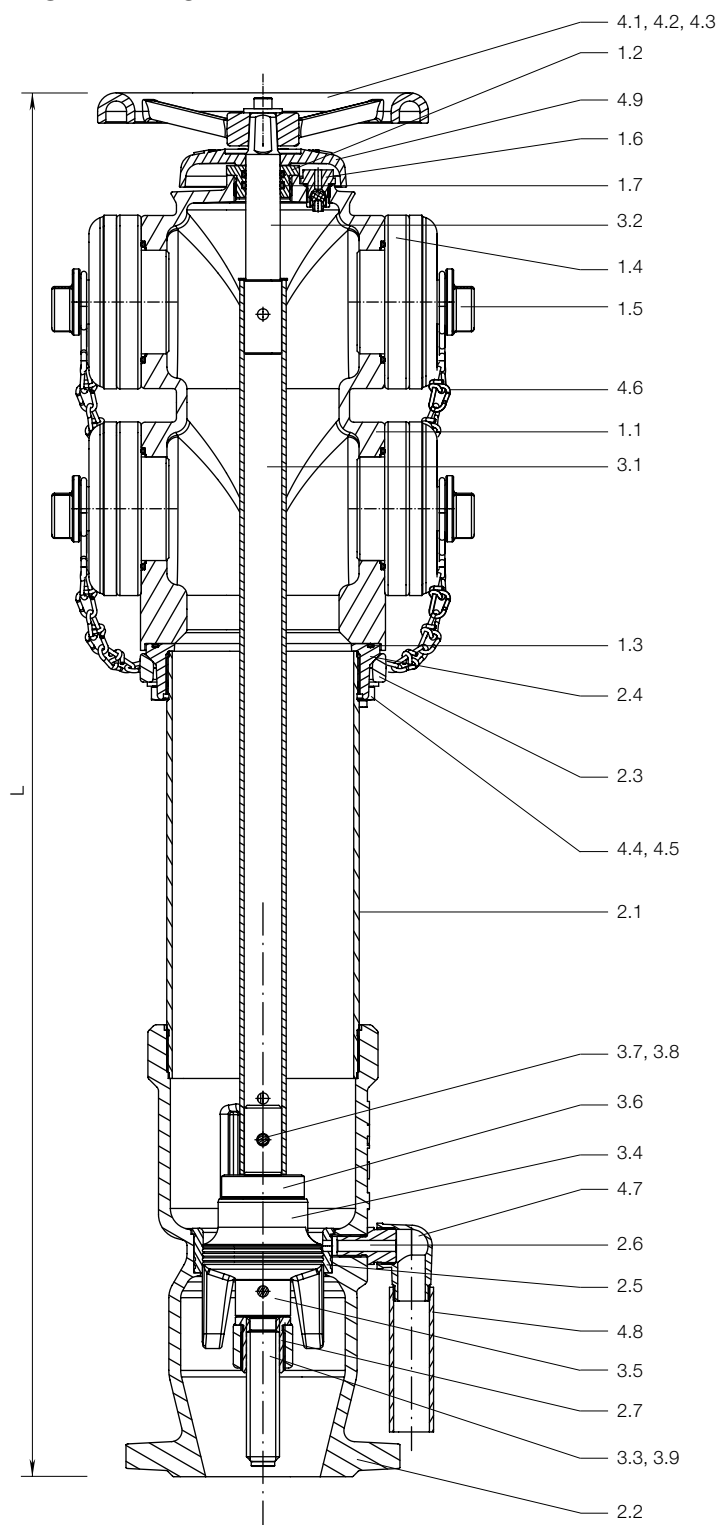
Optionally, all outlets can be provided with a fire cock

Tunnel hydrant

with 4 outlets



EURO 2000-RW 0,
SGG, NGG
No. KR276



	Series	Material
1.1	Head	Ductile iron
1.2	O-ring bush	Brass
1.3	O-ring diameter 152 x 4	Elastomer
1.4	Coupling	Al
1.5	Cap	Al
1.6	Air valve	Brass
1.7	O-ring 25 x 3.5	Elastomer
2.1	Stand pipe	Steel, stainless steel
2.2	Base	Ductile iron
2.3	Grip ring	Ductile iron
2.4	Head ring 80	Ductile iron
2.5	Sealing seat ring	Brass
2.6	Drain outlet	Brass
2.7	Spindle nut	Brass
3.1	Operating pipe	Stainless steel
3.2	Square cap connection	Brass
3.3	Spindle	Stainless steel
3.4	Valve plug	Brass/elastomer
3.5	Lock washer	Brass
3.6	Valve plug nut	Brass
3.7	Hexagonal bolt M 8 x 45	Stainless steel
3.8	Hexagonal nut M 8	Stainless steel
3.9	O-ring 25 x 3.5	Elastomer
4.1	Hand wheel	Ductile iron
4.2	Hex. socket head bolt M 8 x 16	Stainless steel
4.3	Spring washer 8	Stainless steel
4.4	Hexagonal bolt M 16 x 45	Stainless steel
4.5	Washer	Stainless steel
4.6	Chain	Stainless steel
4.7	Drain bend	Brass
4.8	PE pipe 1"	PE
4.9	Tunnel head cover	Al

On order, every height from L min. to max. 3000 can be delivered.

DN	L min
80	800



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Tunnel hydrant

with 2 outlets, 120° offset

hawle

Construction characteristics

- Working pressure: max. 16 bar (PN 16)
- Complete drainage - residual water zero (RW 0)
- All internal parts made of corrosion-resistant material and can be removed upwards without excavating the hydrant
- Through their vulcanised elastomer sealing profile, the valve plug ensure under pressure protection and tightness in the brass seal seating ring; with the opening stroke of the valve plug (50 mm), the function of the drainage with under pressure protection is positively-controlled
- The head with the outlets can be rotated 360° by loosening the 4 stainless steel bolts
- Flange sized and drilled according to EN 1092-2 | PN 16

Material | Technical features

- Head and hand wheel:** made of ductile iron, epoxy powder-coated on all sides + external powder-coating on polyester base (UV-resistant) in RAL 3000 (fire red)
- Stand pipe:** **SGG made of steel**, hot-dip galvanised on all sides + external zinc pigment coating
NGG from stainless steel, polished
- Hydrant base:** made of ductile iron, epoxy powder-coated on all sides
- Operating pipe:** made of stainless steel
- Valve plug:** made of brass / elastomer
- Spindle:** made of stainless steel
- Rate of flow:** $Q \text{ (m}^3/\text{h)}$ at a differential pressure of 1 bar is higher than requested by EN14384
 $K_v [\text{m}^3/\text{h}]$
- Standard:** **ÖNORM (Austrian standard)**
F 2010 - EN 14384, EN 1074-6
- Max. working pressure:** 16 bar (PN 16)
- Residual water:** < EN 1074-6

EURO 2000-RW 0,
SGG, NGG
No. KR277



Order no.	DN	Outlet			Version	
		A	B	C	SGG	NGG
KR277	80		2			
	100		1	1		

Suitable accessories see page 6



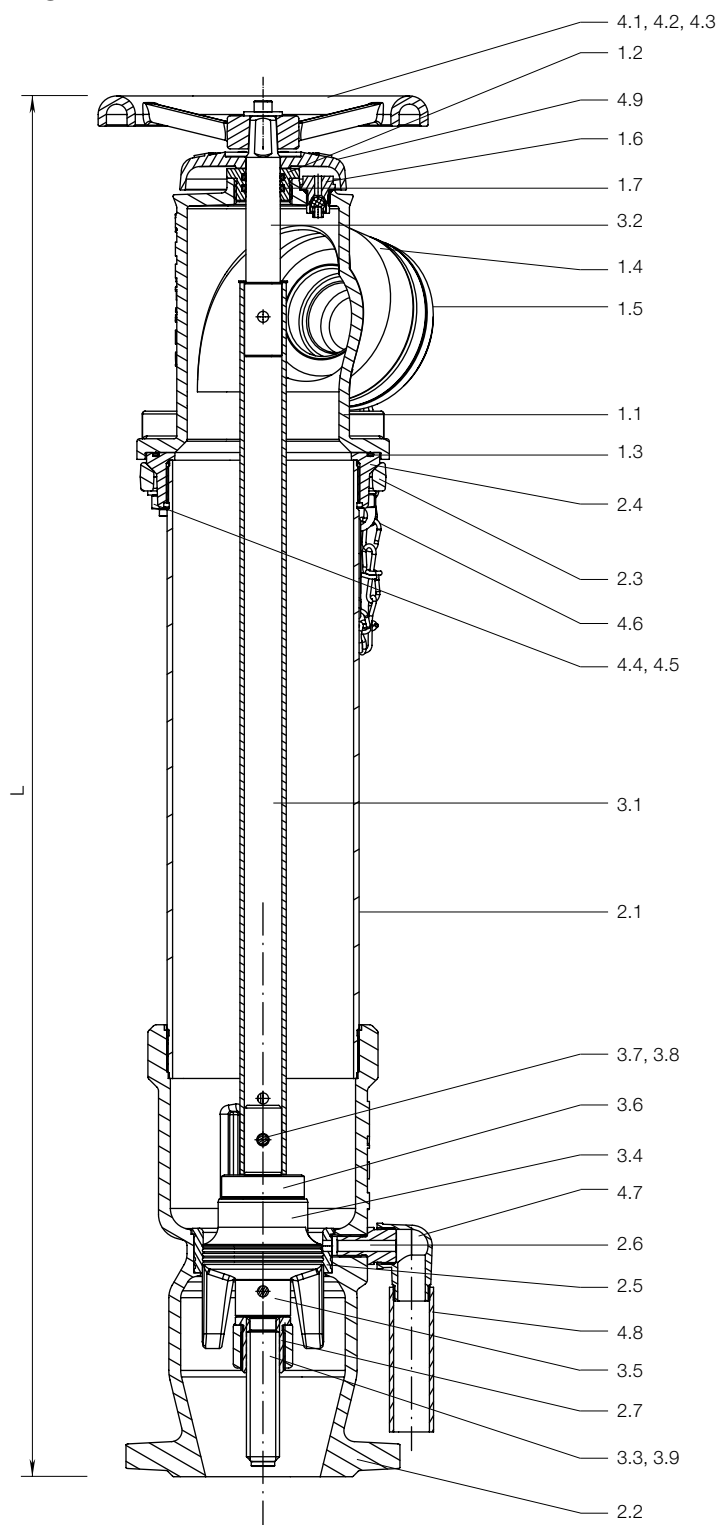
Optionally, all outlets can be provided with a fire cock

Tunnel hydrant

with 2 outlets, 120° offset



EURO 2000-RW 0,
SGG, NGG
No. KR277



	Series	Material
1.1	Head	Ductile iron
1.2	O-ring bush	Brass
1.3	O-ring diameter 152 x 4	Elastomer
1.4	B coupling	Al
1.5	B cap	Al
1.6	Air valve	Brass
1.7	O-ring 25 x 3.5	Elastomer
2.1	Stand pipe	Galvanised steel, stainless steel
2.2	Base	Ductile iron
2.3	Grip ring	Ductile iron
2.4	Head ring 80	Ductile iron
2.5	Sealing seat ring	Brass
2.6	Drain outlet	Brass
2.7	Spindle nut	Brass
3.1	Operating pipe	Stainless steel
3.2	Square cap connection	Brass
3.3	Spindle	Stainless steel
3.4	Valve plug	Brass/elastomer
3.5	Lock washer	Brass
3.6	Valve plug nut	Brass
3.7	Hexagonal bolt M 8 x 45	Stainless steel
3.8	Hexagonal nut M 8	Stainless steel
3.9	O-ring 25 x 3.5	Elastomer
4.1	Hand wheel	Ductile iron
4.2	Hex. socket head bolt M 8 x 16	Stainless steel
4.3	Spring washer 8	Stainless steel
4.4	Hexagonal bolt M 16 x 45	Stainless steel
4.5	Washer	Stainless steel
4.6	Chain	Stainless steel
4.7	Drain bend	Brass
4.8	PE pipe 1"	PE
4.9	Tunnel head cover	Al

On order, every height from L min. to max. 3000 can be delivered.

DN	L min
80	800
100	1000



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Underground hydrant

DUO



Construction characteristics

- Working pressure: max. 16 bar (PN 16)
- complete drainage - residual water zero (RW 0)
- All internal parts are made of corrosion-resistant material and can be removed without excavating the hydrant, apart from ball.
- With ball double-locking (optionally without ball double shut-off)
- Easy assembly with loose flange and integrated flange seal
- operation takes place via valve key on 27/32 square cap via the rod and the stainless steel spindle that lies above
- Flange sized and drilled according to EN 1092-2 | PN 16

Material | Technical features

Stand pipe:	made of ductile iron, epoxy powder-coated
Hydrant base:	made of ductile iron, epoxy powder-coated
Jaw coupling and Operating cap:	made of ductile iron, hot-dip galvanised
Operating pipe:	made of stainless steel
Valve plug:	made of ductile iron / elastome
Spindle:	made of stainless steel

Rate of flow: $K_v [m^3/h]$	Q (m ³ /h) for differential pressure of 1 bar higher than requested by EN14339
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Standard:	ÖNORM (Austrian standard) F 2010 - EN 14339, EN 1074-6
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Max. working pressure: 16 bar (PN 16)

Standard pipe cover depth:	1,50 m (optionally 1,25 m and 1,00 m possible)
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Residual water:	< EN 1074-6
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Suitable accessories

Flange duck foot bend:	No. 5045, No. 5046, No. 5049
Hydrant shut-off key for underground hydrants:	No. 3420
Flat gasket:	No. 3390
Bolts:	No. 8810, No. 8830, No. 8840
Surface boxes:	No. 1950, No. 1950K

DUO
No. KR240



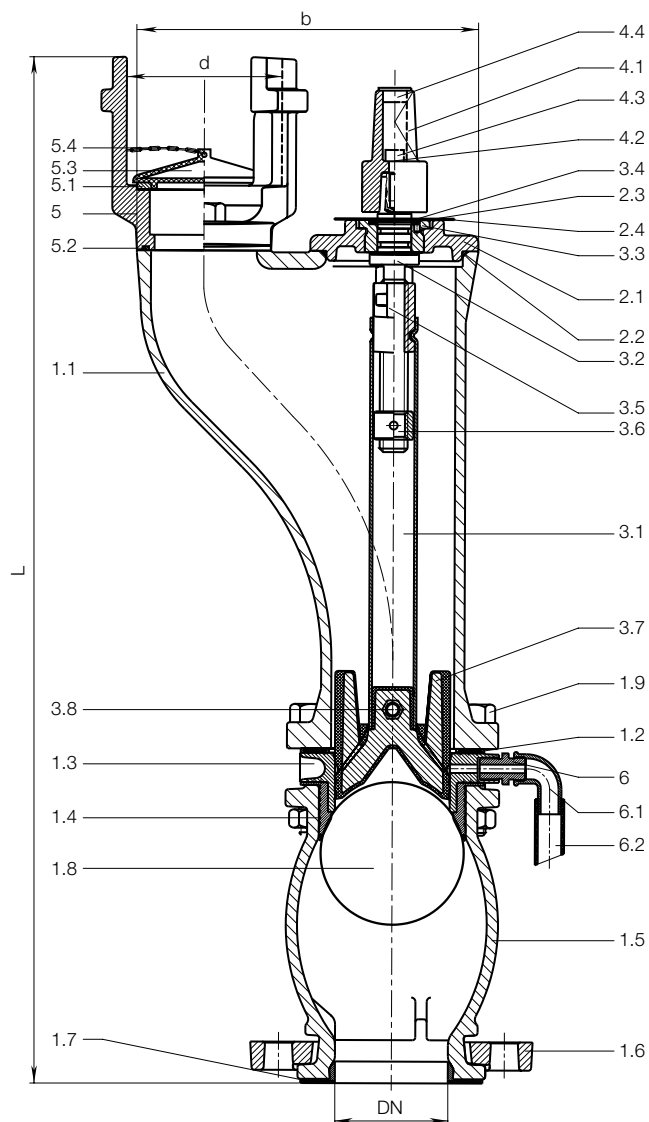
Order no.	DN	Stand pipe connection	
KR240	80	DN 80	
	100	DN 100	

Underground hydrant

DUO



DUO No. KR240



	Series	Material
1.1	Stand pipe	Ductile iron
1.2	Flat gasket	Elastomer
1.3	Sealing seat ring	Stainless steel
1.4	Sealing seat seal	Elastomer
1.5	Base	Ductile iron
1.6	Loose flange	Ductile iron
1.7	Base gasket	Elastomer
1.8	Ball	PP
1.9	Hexagonal bolt	Stainless steel
2.1	Head plate	Ductile iron
2.2	O-ring	Elastomer
2.3	Friction washer	POM
2.4	Badge	PVC
3.1	Operating pipe	Stainless steel
3.2	Spindle	Stainless steel
3.3	O-ring bush	Brass
3.4	Fixing ring	Stainless steel
3.5	Spindle nut	Brass
3.6	Stop nut	Brass
3.7	Valve plug	Ductile iron / elastomer
3.8	Hexagonal bolt	Stainless steel
3.9	Nut M 8	Stainless steel
4.1	Operating cap	Ductile iron
4.2	Spring washer	Stainless steel
4.3	Bolt	Stainless steel
4.4	Isolating cap	PE
5	Jaw coupling	Ductile iron
5.1	Seat ring	Brass
5.2	Gasket	Elastomer
5.3	Connection cover	PE
5.4	Chain	Stainless steel
6	Drain outlet	Brass
6.1	Drainage bend	Brass
6.2	Outlet pipe (not included)	PE

DN	Pipe cover depth m	L	b	d	Weight
80	1,50	1230	242	110	39,5
	1,25	980	242	110	35,5
	1,00	730	242	110	31,5
100	1,50	1250	310	145	62,0
	1,25	1000	310	145	55,5
	1,00	750	310	145	49,0



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Underground hydrant

DUO GOST



Construction characteristics

- Working pressure: max. 16 bar (PN 16)
- All internal parts made of corrosion-resistant material and can be removed without excavating the hydrant
- With ball double shut-off
- Simple assembling by loose flange and integrated flange gasket
- Loose flange enables continuous 360° rotation of the hydrant for optimal installation
- Complete drainage - residual water zero (RW 0)
- DN 100 flange sized and drilled according to EN 1092-2 | PN 16 or GOST standard

Material | Technical features

Stand pipe:	made of steel, hot-dip galvanised + additional external 2-component PU coating
Base:	made of ductile iron, epoxy powder-coated
Thread outlet:	made of ductile iron, hot-dip galvanised
Operating pipe:	made of stainless steel
Valve plug:	made of ductile iron, elastomer
Spindle:	made of stainless steel
Outlet:	DN 100: connection for GOST Stand pipe 6" thread
Flange:	DN 100 (EN 1092-2) or DN 175 (GOST)

Suitable accessories

Surface boxes:	rigid	No. 1950
Flanged duck foot bend:		No. 5049
Base plate for surface box:		No. 3482

DUO GOST No. 5035



Fig.: DN 100 (EN 1092-2)



used for
GOST Stand pipe:



Fig.: DN 175 (GOST)

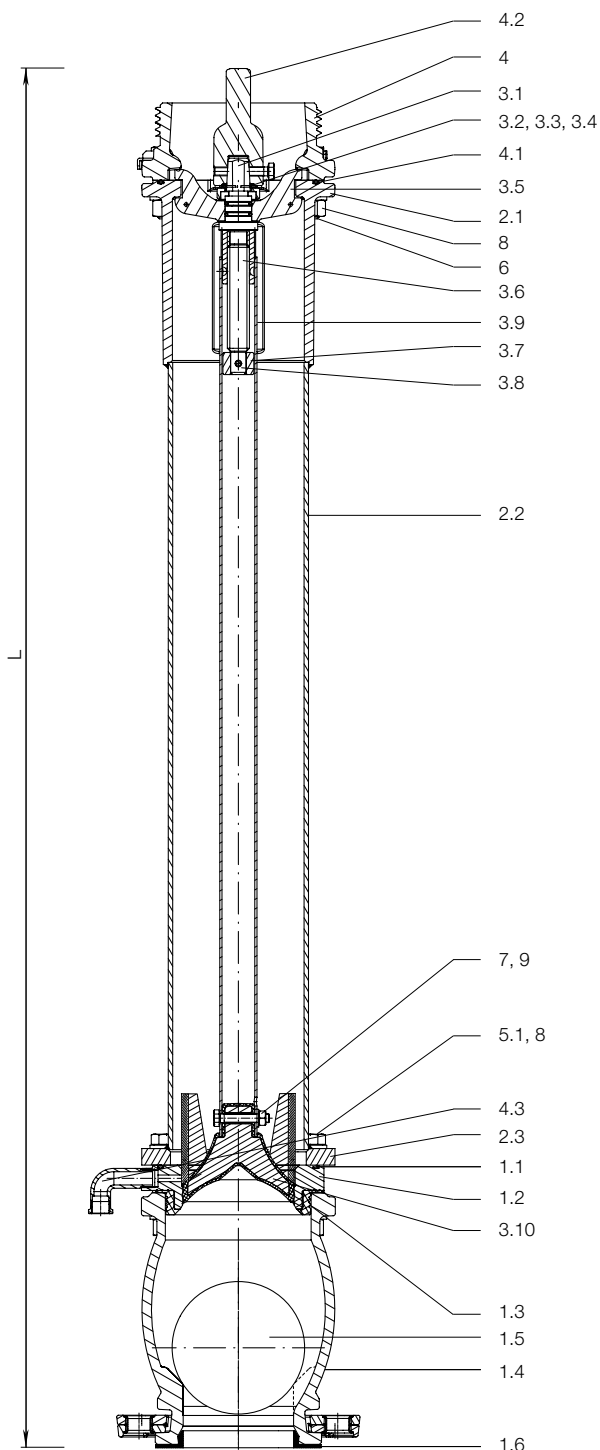
Order no.	MOP (PN)	Version	Pipe cover depth m												
			1,00	1,25	1,50	1,75	2,00	2,25	2,50	2,75	3,00	3,25	3,50	3,75	4,00
5035	16	Flange connection DN 100 (EN 1092-2)													
		DN 175 (GOST)													

Underground hydrant

DUO GOST



DUO GOST No. 5035



	Series	Material
1	Base	
1.1	O-ring diameter 135 x 5	Elastomer
1.2	Sealing seat ring	Stainless steel
1.3	Sealing seat - seal	Elastomer
1.4	Base	Ductile iron
1.5	Sealing ball	PP
1.6	Flange gasket	Elastomer
2	Stand pipe	
2.1	Dumper flange	Cast steel
2.2	Steel pipe diameter 127 x 4	Steel
2.3	Base flange	Cast steel
3	Operating pipe	
3.1	Spindle	Stainless steel
3.2	Fixing ring	Stainless steel
3.3	Spindle safety strap	Stainless steel / brass
3.4	Friction washer	Bronze
3.5	Dumper body	Brass
3.6	Spindle nut	Brass
3.7	Stop nut (= DN 80)	Brass
3.8	Cylinder pin diameter 5 x 32	Stainless steel
3.9	Operating pipe	Stainless steel
3.10	Valve plug	Ductile iron / elastomer
4	GOST DUO coupling	Ductile iron
4.1	O-ring diameter 135 x 5	Elastomer
4.2	GOST operating cap	Ductile iron / galvanised
4.3	Drain bend	Brass
5.1	Hexagonal bolt M 16 x 75	Stainless steel
6	Hexagonal bolt M 16 x 55	Stainless steel
7	Hexagonal bolt M 8 x 40	Stainless steel
8	Nut M 16	Stainless steel
9	Nut M 8	Stainless steel

DN	Pipe cover depth m	L	Weight
100	1,00	730	40
	1,25	980	45
	1,50	1230	50
	1,75	1480	55
	2,00	1730	60
	2,25	1980	65
	2,50	2230	70
	2,75	2480	75
	3,00	2730	80
	3,25	2980	85
	3,50	3230	90
	3,75	3480	95
	4,00	3730	100



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Underground hydrant

BS 750



Construction characteristics

- Working pressure: max. 16 bar (PN 16)
- Meets requirements of British Standard BS 750
- With round thread connection BSRT 2½"
- All internal parts are made of corrosion-resistant material
- Operation takes place via valve key on 29/35 square cap
- Through its vulcanised sealing profile made of elastomer the valve plug ensures optimum tightness in the body
- All internal parts can be removed without excavating the hydrant
- Flange sized and drilled according to EN 1092-2 | PN 16

Material | Technical features

Body, head plate: made of ductile iron, inside and outside, epoxy powder-coated

Round thread connection: made of stainless steel

Valve plug: made of brass, with vulcanised on elastomer

Spindle: made of stainless steel

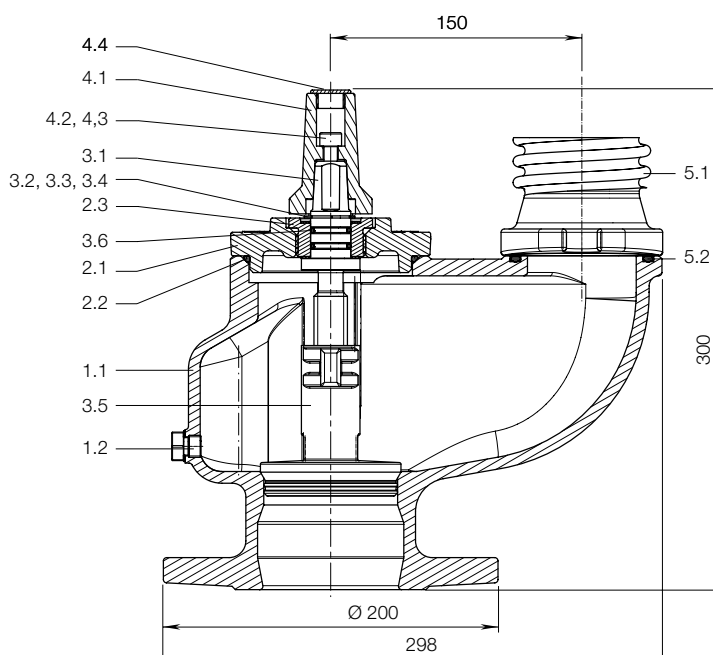
BS 750
No. 5031

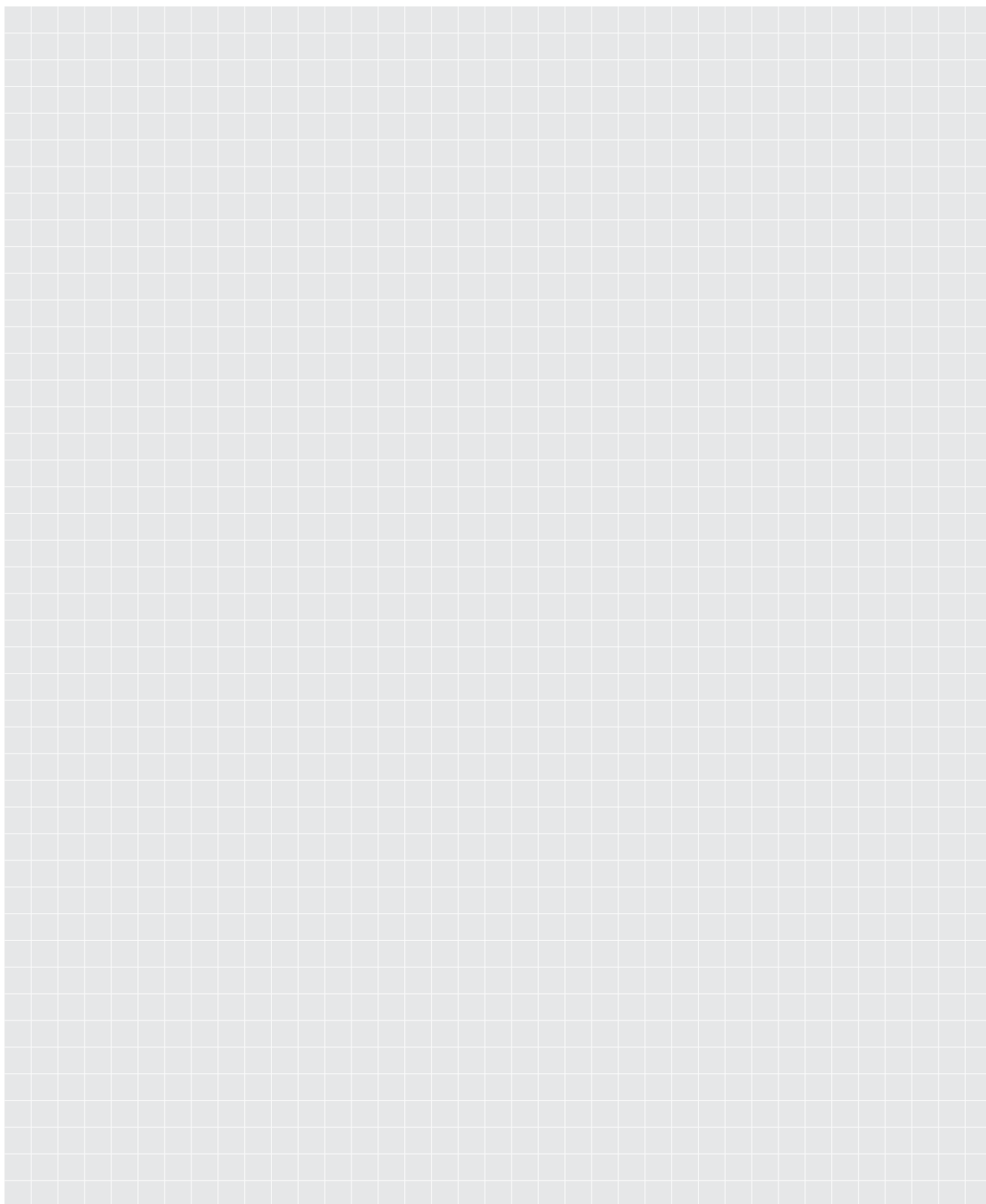


Order no.	MOP (PN)	DN	Version	Weight
5031	16	80	BS 750	17,0

Suitable accessories see page 26

	Series	Material
1.1	Body	Ductile iron
1.2	Drainage (optional)	Stainless steel
2.1	Head plate	Ductile iron
2.2	O-ring	Elastomer
2.3	O-ring bush	Brass
2.4	Hexagonal bolts M 16x30	Stainless steel
3.1	Spindle	Stainless steel
3.2	Fixing ring	Stainless steel
3.3	Washer	POM
3.4	Washer	Brass
3.5	Valve plug	Brass/elastomer
3.6	O-ring	Elastomer
4.1	Operating cap	Ductile iron
4.2	Spring washer	Stainless steel
4.3	Hex. socket head bolt M 8	Stainless steel
4.4	Sealing cap	PE
5.1	Round thread connection	Stainless steel
5.2	O-ring	Elastomer



A large rectangular area filled with a light gray grid pattern, intended for technical notes or drawings.

Underground hydrant

MONOBLOC MB1



Construction characteristics

- Working pressure: max. 16 bar (PN 16)
- Double drainage
- All internal parts are made of corrosion-resistant material and can be removed without excavating the hydrant
- operation takes place via valve key on square cap via the rod and the stainless steel spindle that lies above

Material | Technical features

Stand pipe (single part):	
and jaw coupling:	made of ductile iron, epoxy powder-coated
Operating cap:	made of ductile iron, hot-dip galvanised on all sides
Operating pipe:	made of stainless steel
Valve plug:	made of elastomer, completely vulcanised
Spindle:	made of stainless steel

Rate of flow: 93
 $K_v[m^3/h]$

Standard: EN 14339, EN 1074-6

Max. working pressure: 16 bar (PN 16)

Standard pipe cover depth: 1,50 m
(optionally 1,25 m, 1,00 m and 0,80 m possible)

Residual water: < EN 1074-6

Suitable accessories

Flange duck foot bend	No. 5045, No. 5046, No. 5049
Flat gasket	No. 3390
Bolts	No. 8810, No. 8830, No. 8840
Surface boxes	No. 1950, No. 1950K

Monobloc MB1 No. KR244



Order no.	DN	Flange connection	
KR244	80	DN 80	

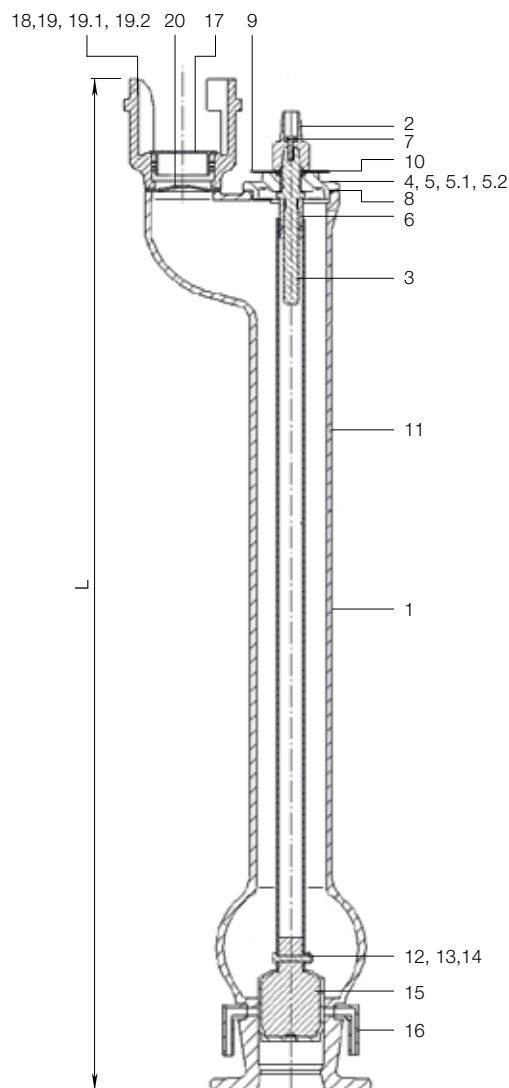
Underground hydrant

MONOBLOC MB1



Monobloc MB1

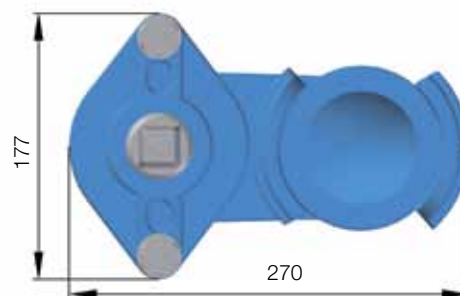
No. KR244



	Series	Material
1	Stand pipe	Ductile iron
2	Operating cap	Ductile iron, galvanised
3	Spindle	Stainless steel
4	Head plate	Ductile iron
5	Hexagonal bolt M 16 x 70	Stainless steel
5.1	Nut	Stainless steel
5.2	Plates	Stainless steel
6	Spindle nut	Brass
7	Hex.socket head bolt M 8 x 20	Stainless steel
8	O-ring	Elastomer
9	Badge	PVC
10	Friction washer	Bronze
11	Operating pipe	Stainless steel
12	Bolt M 8 x 45	Stainless steel
13	Lock washer	Stainless steel
14	Nut M 8	Stainless steel
15	Valve plug	Elastomer
16	Drain bend	PE
17	Connection cover	PE
18	Jaw coupling	Ductile iron
19	Hexagonal bolt M 16 x 70	Stainless steel
19.1	Nut	Stainless steel
19.2	Washer	Stainless steel
20	Stone guard	Elastomer

DN	Pipe cover depth m	L
80	1,50	1230
	1,25	980
	1,00	730
	0,83	530

Installation dimensions:



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Old town drinking fountain

Nostalgia



Construction characteristics

- Maximum operating pressure – 16 bar (PN 16)
- Flow rate adjustable through a regulating piston, factory settings already pre-set
- Krammer Old city drinking fountain has its design based on the styles from the turn of the century
Optional: escutcheon (shield) available at request
- Through the operation of the lever will the rotary movement be converted into a lifting movement thanks to a cam and then transferred via the lifting plate and the operating pipe into the sealing piston
- After closing of the outlet, automatic draining starts
- Compact, exchangeable sealing system can be disassembled from the top – without any excavation works
- Includes Hawle-Fit connection fittings
- Includes Hawle drainage pipe

Material | Technical features

Pipe:	made of steel, epoxy powder-coated
Upper section, lever, hood, trim ring:	made of ductile iron, epoxy powder-coated on all sides + external 2-component PU coating in RAL 6004 (blue-green) other colours on request
Valve plug:	made of stainless steel with vulcanised sealing ring
Seal seat:	made of POM

Suitable accessories

Discharge tray:	No. KR288
Service valve:	No. 2631 (alternatives see Hawle water catalogue)
Extension spindles:	rigid No. 9101 telescopic No. 9601
Surface boxes:	rigid No. 1550, 1650 telescopic No. 1850, 1851K
Base plate:	No. 3481

Material | Technical features

Discharge tray:	made of ductile iron, epoxy powder-coated on all sides + external 2-component PU coating in RAL 6004 (blue-green) other colours on request
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Nostalgia drinking fountain No. KR267



Symbol photo

Discharge tray No. KR288

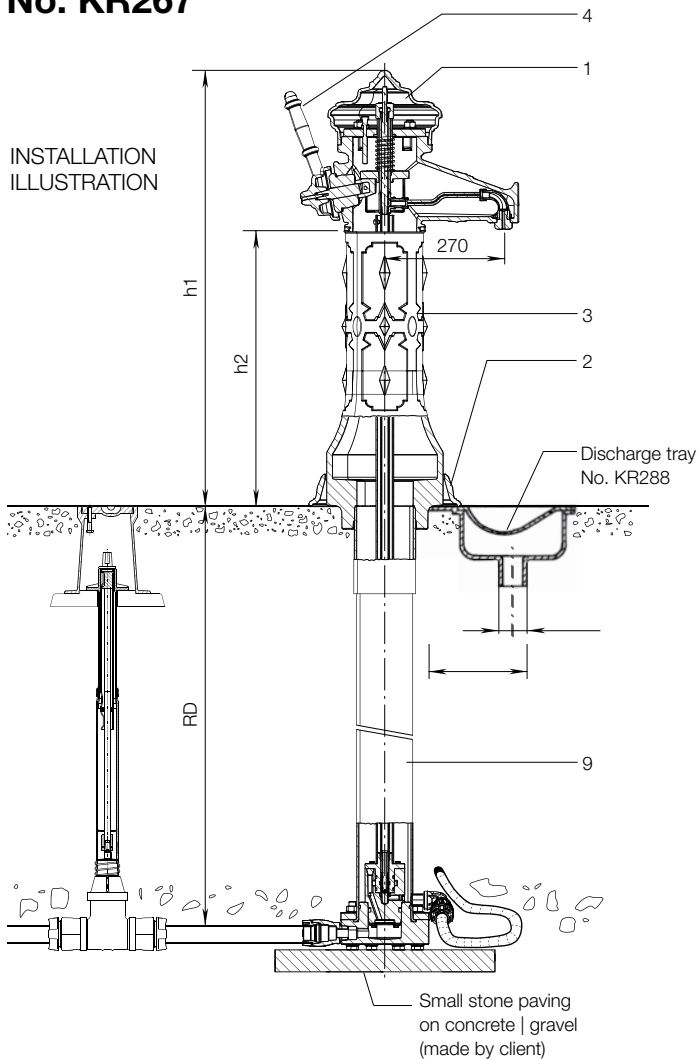


Old town drinking fountain

Nostalgia

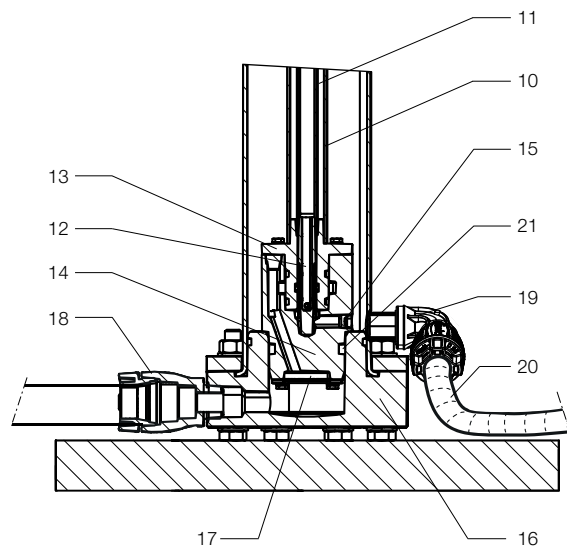
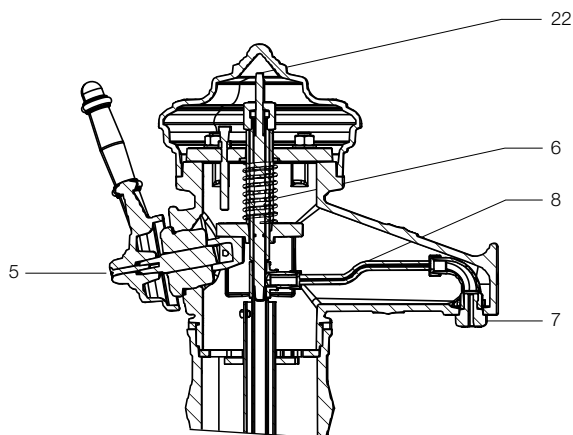


Nostalgia drinking fountain No. KR267



	Series	Material
1	Hood	Ductile iron
2	Sleeve ring	Ductile iron
3	"Old town" stand pipe	Ductile iron
4	Lever	Ductile iron
5	Hexagonal nut M 8 x 50	Stainless steel
6	Compression spring	Stainless steel
7	Nut	Brass
8	Flexible pipe	Stainless steel / elastomer
9	Stand pipe	Coated steel
10	Protection pipe	Stainless steel
11	Operating pipe	Stainless steel
12	Piston	Stainless steel / elastomer
13	Sealing seat	POM
14	Seat	POM
15	Back flow preventer	Stainless steel / POM
16	Socket flange DN 80	POM
17	Filter mesh	Stainless steel
18	Hawle-FIT 1" external thread	PP
19	Hawle-FIT ¾" Elbow 90° internal thread	PP
20	Hawle drainage pipe	Plastic
21	O-ring	Elastomer
22	Piston	Stainless steel

RD m	h1	h2	a	Weight
1,00	1000	600	180	95
1,25				99
1,50				103



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35

SERVICE VALVE

with internal thread on both sides



Construction characteristics

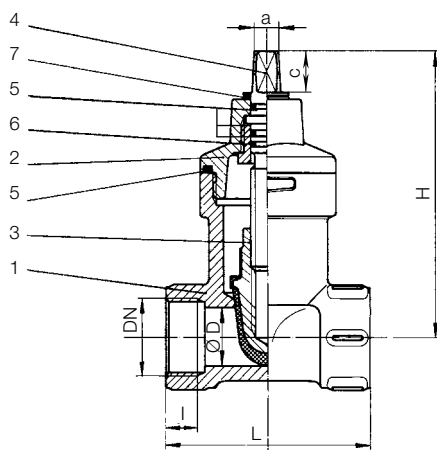
- Resilient seated gate valve with smooth straight through bore with internal threads on both sides
- For pipe assembly, the body key surfaces should not be damaged with the pipe wrench
- The body has internal threads on both sides for the connection of steel pipes with conical external threads
- All surfaces that come into contact with drinking water correspond to the Hygiene requirements according to ÖNORM B 5014/Part 1 (KTW guidelines). The valve plug is drained; there is no valve bag, the internal surfaces allow no deposits

Material | Technical features

- 1/2 **Body (1), bonnet (2)**
DN 20 - DN 25 made of forged brass
- 3 **Valve plug** made of brass, with vulcanised elastomer
- 4 **Stainless steel spindle** with rolled thread guided in brass
O-ring bush and triple sealed with O-rings
- 5 **O-rings** made of elastomer
- 6 **O-ring bush** made of brass
- 7 **Wiper ring** made of elastomer

Suitable accessories

- Extension spindles:** rigid No. KR380
telescopic No. KR385



DN	Valve		Spindle		Weight
	L	H	a	c	
3/4"	90	125	12	10,3	1,65
1"			14	20	1,55

No. KR351



Order no.	Version	MOP (PN)	Dimensions / DN	
			3/4"	1"
KR351	internal thread on both sides	16		

Spindle turns for service valves

Valve stroke

- Spindle turns for closing torque of Krammer service valves
- Upper stop – lower stop

Krammer service valve No. KR351- KR355	DN	
	20	25
Spindle turns	9	9

SERVICE VALVE

Pre-meter valve with hand wheel



Construction characteristics

- Resilient seated gate valve with smooth straight through bore with internal threads on both sides
- Not suitable for underground installation
- Housed between the body and bonnet lies the bonnet seal
- All surfaces in contact with drinking water correspond to the hygiene requirements acc. to ÖNORM B 5014/Part 1 (KTW guidelines); the valve plug is drained; there is no valve bag, the internal surfaces allow no deposits

Material | Technical features

- 1/2 **Body (1), bonnet (2)**
DN 20 - DN 25 made of forged brass
- 3 **Valve plug** made of brass, with vulcanised elastomer
- 4 **Stainless steel spindle** with rolled thread guided in brass
O-ring bush and triple sealed with O-rings
- 5 **O-rings** made of elastomer
- 6 **O-ring bush** made of brass
- 7 **Hand wheel** made of plastic (optional of aluminium)

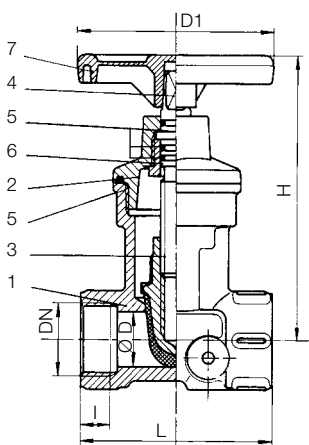
Suitable accessories

Installation bracket: No. KR331

No. KR352



Order no.	Version	MOP (PN)	Dimensions / DN	
			¾"	1"
KR352	internal thread on both sides	16		



DN	Valve				Weight
	L	H	D1	I	
¾"	90	125	90	12	1,65
1"				14	1,55



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SERVICE VALVE

Post-meter valve with hand wheel and drainage plug



Construction characteristics

- Resilient seated gate valve with smooth straight through bore with internal threads on both sides
- The bonnet seal lies housed between the body and bonnet
- The drain plug has a G 1/4" thread and is closed with brass plug and seal
- All surfaces in contact with drinking water correspond to hygiene requirements acc. to ÖNORM B 5014/Part 1 (KTW guidelines); the valve round plug is drained; there is no valve bag, the internal surfaces allow no deposits

Material | Technical features

- 1/2 **Body (1), bonnet (2)**
DN 20 - DN 25 made of forged brass
- 3 **Valve round plug** made of brass, with vulcanised elastomer
- 4 **Stainless steel spindle** with rolled thread guided in brass
O-ring bush and triple sealed with O-rings
- 5 **O-rings** made of elastomer
- 6 **O-ring bush** made of brass
- 7 **Hand wheel** made of plastic (optional aluminium)

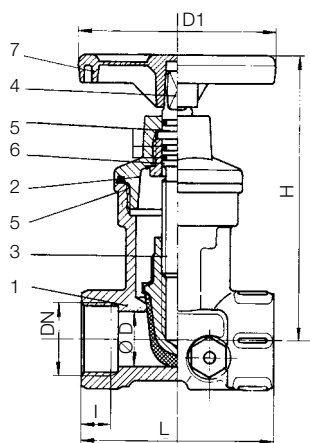
No. KR353



Order no.	Version	MOP (PN)	Dimensions / DN	
			3/4"	1"
KR353	internal thread on both sides	16		

Suitable accessories

Installation bracket: No. KR331



DN	Valve				Weight
	L	H	D1	I	
3/4"	90	125	90	12	1,65
1"				14	1,55

SERVICE VALVE

with push-on ISO socket on both sides for PE pipes



Construction characteristics

- Resilient seated gate valve with smooth straight through bore with push-on ISO socket on both sides for PE pipes acc. to DIN 8074/8075 (ÖNORM B 5172)
- Housed between the body and bonnet lies the bonnet seal
- All surfaces in contact with drinking water correspond to the Hygiene requirements according to ÖNORM B 5014/Part 1 (KTW guidelines). The valve round plug is drained; there is no valve bag, the internal surfaces allow no deposits

Material | Technical features

- 1/2 **Body** (1), **bonnet** (2) made of forged brass
- 3 **Valve round plug** made of brass, with vulcanised elastomer
- 4 **Stainless steel spindle** with rolled thread guided in brass O-ring bush and triple sealed with O-rings
- 5 **O-rings** made of elastomer
- 6 **O-ring bush** made of brass
- 7 **Wiper ring** made of elastomer
- 8 **Grip ring** made of POM
- 9 **O-ring** made of elastomer

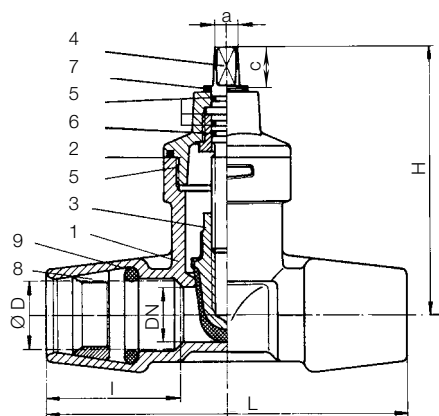
Suitable accessories

Extension spindles: rigid No. KR380
telescopic No. KR385

No. KR354



Order no.	Version	MOP (PN)	Dimensions / DN
KR354	with push-on ISO socket on both sides for PE pipes	16	25



DN	Valve				Spindle		Weight
	L	H	R	I	a	c	
25	164	125	32	58	10,3	20	2,20



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SERVICE VALVE

with internal and external threads



Construction characteristics

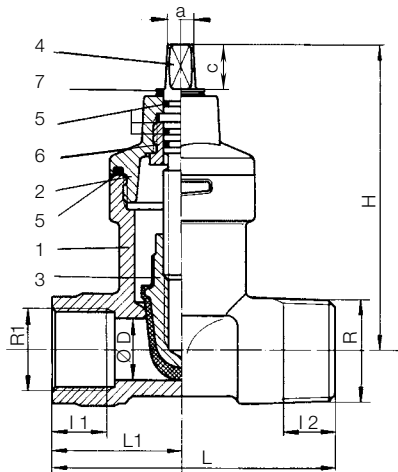
- Resilient seated gate valve with smooth straight through bore with one internal and one external thread
- Made of hot-pressed brass
- All surfaces in contact with drinking water correspond to the Hygiene requirements acc. to ÖNORM B 5014/Part 1 (KTW guidelines); the valve round plug is drained; there is no valve bag, the internal surfaces allow no deposits

Material | Technical features

- 1/2 **Body** (1), **bonnet** (2) made of forged brass
- 3 **Valve round plug** made of brass, with vulcanised elastomer
- 4 **Stainless steel spindle** with rolled thread guided in brass O-ring bush and triple sealed with O-rings
- 5 **O-rings** made of elastomer
- 6 **O-ring bush** made of brass
- 7 **Wiper ring** made of elastomer

Suitable accessories

Extension spindles: rigid No. KR380
telescopic No. KR385



DN	Valve							Spindle		Weight
	L	L1	H	R	R1	I1	I2	a	c	
25	103	53	125	1"	1 1/4"	21	19	10,3	20	1,70

No. KR355



Order no.	Version	MOP (PN)	Dimensions / DN 25/ 1"
KR355	with internal and external threads	16	

WATER METER INSTALLATION BRACKETS

Installation bracket for cold water meter

hawle

Construction characteristics

- Optionally closed or open bracket with connection threads and single-sided piece for easy installation of the water meter (water meter is not supplied)
- G 1" connection thread according to ÖNORM EN ISO 228
- No ring or counter nut required for sealing the valve compensation piece
- Safe electrical bridging
- The pipe external thread is located outside the bracket
- Union nut is provided for infeed side plumbing

No. KR331



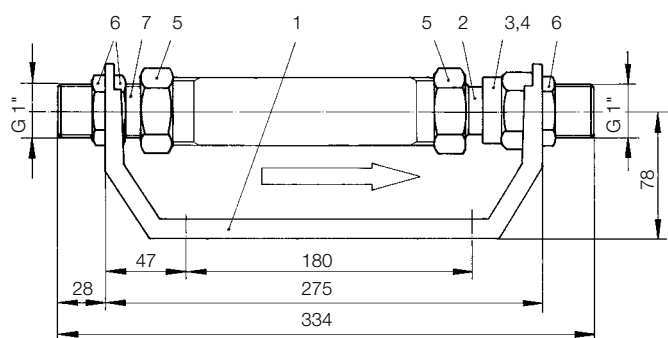
Material | Technical features

- 1 **Installation bracket** made of ductile iron, hot-dip galvanised
- 2 **Compensation piece** made of brass
- 3 **Connecting threads** made of brass
- 4 **O-ring** made of elastomer
- 5 **Union nut** made of brass
- 6 **Nut** made of brass
- 7 **Fixed screw connection** made of brass



Suitable accessories

Back flow preventer stainless steel:	No. KR368
Back flow preventer POM:	No. KR369
Pre-meter valve:	No. KR352
Post-meter valve:	No. KR353
Base plate:	No. KR341



Order no.	MOP (PN)	DN	Valve connector	for cold water meter acc. to ÖNORM B 2535
KR331	16	1"	2 external threads G 1" acc. to ÖNORM EN ISO 228	3 (5) m³/h - / 7 (10) m³/h



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WATER METER INSTALLATION BRACKETS

Installation bracket for cold water meter

hawle

Construction characteristics

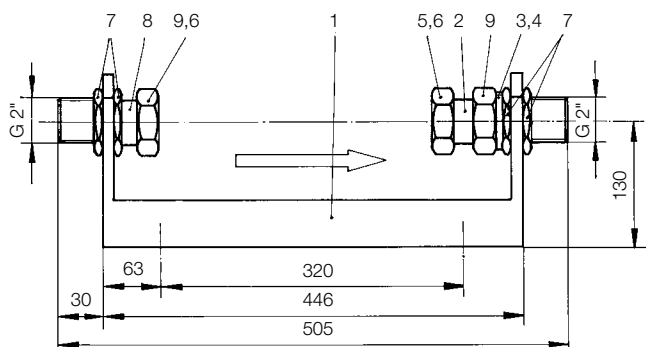
- With connecting screw connections and single-sided compensation piece for easy installation of the water meter (water meter is not supplied)
- Connection thread G 1½" or 2" according to ÖNORM EN ISO 228
- Easy installation and disassembly of the water meter through length compensation (water meter is not supplied)
- No ring or counter nut required for sealing the valve spout
- Safe electrical bridging
- The pipe external thread is located outside the bracket
- Union nut is provided for infeed side plumbing
- If using reduction sockets 2" - 1½", valves of nominal diameter DN 40 can be used as pre- and post-meter valves

No. KR332



Material | Technical features

- 1 **Installation bracket** made of profile steel, welded, epoxy powder-coated
- 2 **Compensation piece** made of brass
- 3 **Connecting threads** made of brass
- 4 **O-ring** made of elastomer
- 5 **Union nut** made of brass
- 6 **Sealing ring** made of polyamide
- 7 **Nut** made of brass
- 8 **Fixed screw connection** made of brass
- 9 **Union nut** made of brass



Order no.	MOP (PN)	DN	Valve connector	for cold water meter acc. to ÖNORM B 2535
KR332	16	1½"	2 external threads G 1½" acc. to ÖNORM EN ISO 228	20 (30) m³/h
		2"	2 external threads G 2" acc. to ÖNORM EN ISO 228	

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E. Hawle Armaturenwerke GmbH 4840 Vöcklabruck - Austria - Wagrainer Straße 13
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WATER METER INSTALLATION SETS

Installation bracket and valve



Construction characteristics

- Optionally closed or open bracket with connection bolts and single-sided dilation option
- Pre-meter valve No. KR352 DN 20 - DN 32 (with smooth straight through bore - resilient seated) loosely screwed on
- Post-meter valve No. KR353 DN 20 - DN 32 (with smooth straight through bore - resilient seated) loosely screwed on with drain plug and closing bolts

Material | Technical features

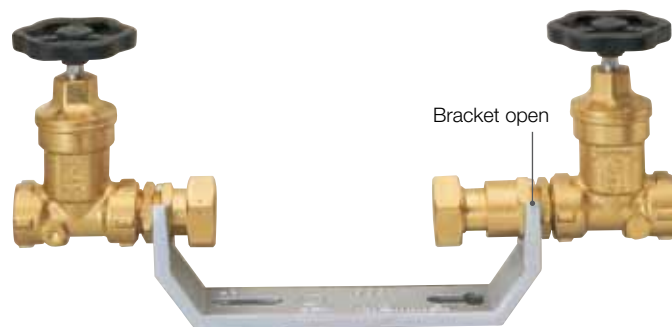
- 1 **Installation bracket** made of ductile iron, galvanised
 - 2 **Pre-meter valve** made of brass
 - 3 **Post-meter valve** made of brass
- **Screw connection parts** from turned brass
 - **O-ring seal** made of elastomer
 - **Closing screw** made of brass

Suitable accessories

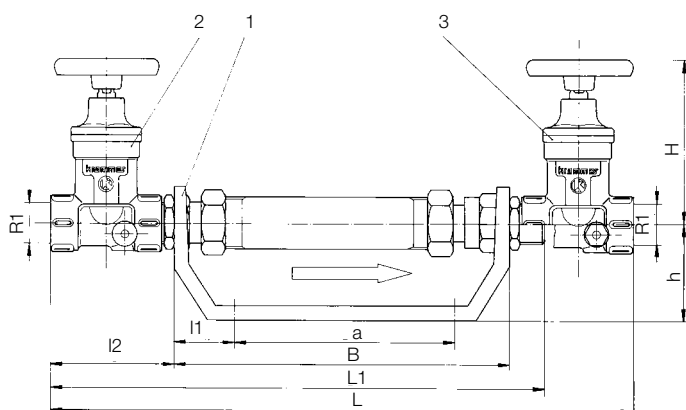
Back flow preventer:

No. KR368

No. KR358



Order no.	Version	MOP (PN)	Dimensions / DN	
			3/4"	1"
KR358	with pre- and post-meter valve	16		



DN	MOP (PN)	R1 thread	I2	I1	a	B	L	L1	h	H	for water meter	Weight	
20	16	3/4"	110	42	180	272	492	410	78	130	3 (5) m³/h - / 7 (10) m³/h	5,80	3,95
25		1"	110				492	410		130		5,20	3,65
32		1 1/4"	135				542	435		140		6,20	4,15



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ISO PIPE FITTING

Fittings for PE pipes



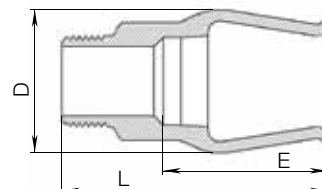
Construction characteristics

- With external thread according to EN 10221-1
- Made of brass
- O-ring made of elastomer
- Grip ring made of POM

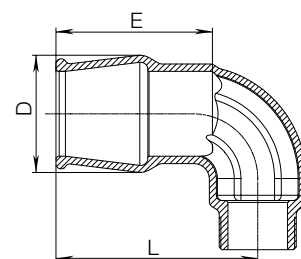
Order no.	Pipe diameter	Thread	MOP (PN)	L	E	D Ø	Weight	
6140	32	1"	16	98	60	54	0,35	

Order no.	Pipe diameter	Thread	MOP (PN)	L	E	D Ø	Weight	
6419	32	1"	16	89	59	53	0,61	
	50	1½"		122	91	76	1,61	
	63	2"		156	121	91	2,65	

Fitting with external thread No. 6140



Bend 90° with external thread No. 6419



Construction characteristics

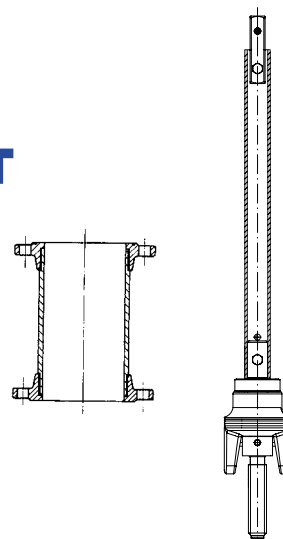
- Extension units serve to extend the above ground hydrant break away No. KR260 by 250 or 400 mm around the flanges of the break-away area
- A complete operation unit is supplied in the altered length

DN	L	Weight
80	250	20,20
100		21,70

Any length possible on request.

Extension unit with operation unit

No. KR285



Construction characteristics

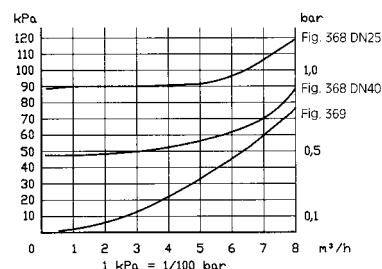
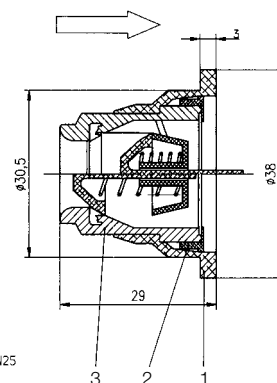
- Low pressure loss
- Opening pressure only 10 cm water column
- no water hammer
- Noiseless operation
- suitable for any installation condition
- Nominal pressure up to 16 bar
- Temperature up to 100° C
- Back-flow preventer (RV) use: DIN-DVGW (German Association for Gas and Water) approved

Material | Technical features

- 1 **Body** made of POM
 - 2 **Ring** made of PA
 - 3 **RV use** from OCEAN back flow preventer
- **Valve** made of POM
 - **Torpedo** made of POM
 - **Seal** made of SBR
 - **Spring** made of stainless steel

Plug-in back flow preventer (RV) for installation in all domestic water meters

No. KR369



Construction characteristics

- The length of the rigid additional extension spindle can be adjusted for shorter pipe cover depths by shortening the key rod and the PE protection pipe
- Please specify pipe cover depth when ordering

Order no.	Version	Pipe cover depth	L	Weight	Dimensions DN 20 - 50
KR380	rigid	1,00 m	850	1,00	
		1,25 m	1050	1,30	
		1,50 m	1300	1,70	
		1,75 m	1550	2,00	
		2,25 m	2050	2,50	

Construction characteristics

- The telescope additional extension spindle allows a continuous adjustment to the street level
- All vertically acting forces are absorbed by the telescope effect, preventing damage to the pipe and the valve
- Please specify pipe cover depth when ordering

Order no.	Version	Pipe cover depth	L	Weight	Dimensions DN 20 - 50
KR385	telescopic	1,25 - 1,85 m	990	3,65	
		1,75 - 3,11 m	1620	5,90	

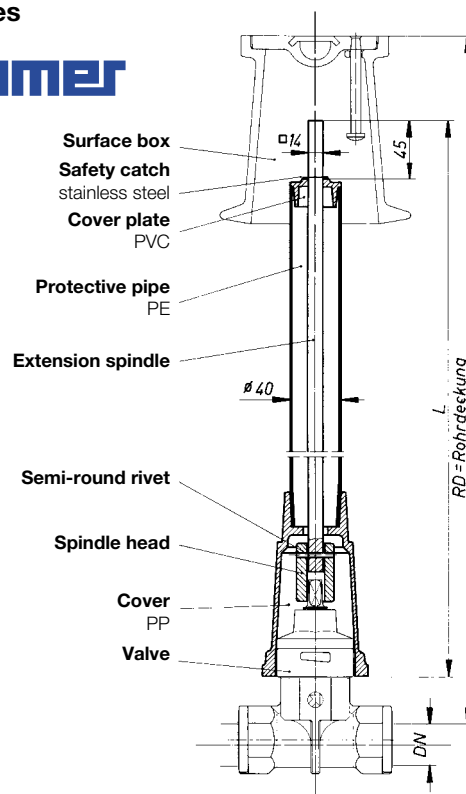
Suitable accessories

Service valve: No. KR351, No. KR354, No. KR355

Rigid extension spindle for service valves



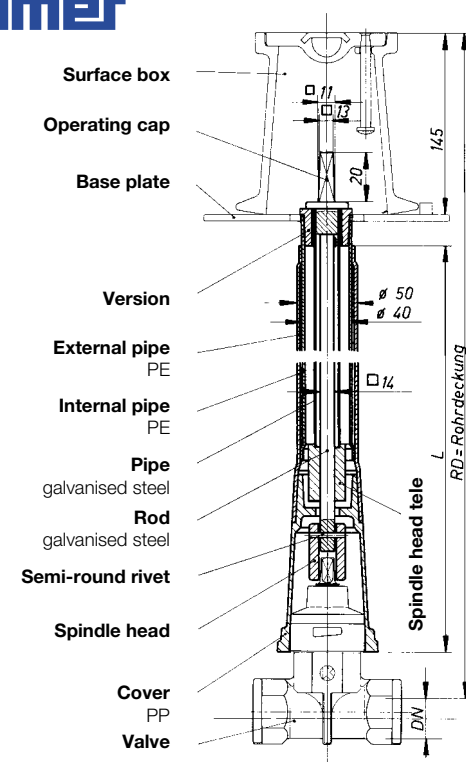
No. KR380



Telescopic extension spindle for service valves



No. KR385



KRAMMER-Easy-Connect COUPLING

Multi-range connection for all common types of pipes



Design features

- Connection suitable Multi-range connection for all common types of pipes
- Wide tolerance of the outer diameter of the pipe
- Separate hydraulic sealing
- Angle compensation max. 6° (+/- 3° each socket)
- Easy and quick installation
- The resilience of the connection prevents tension in the pipe and minimises the danger of breakage

Material

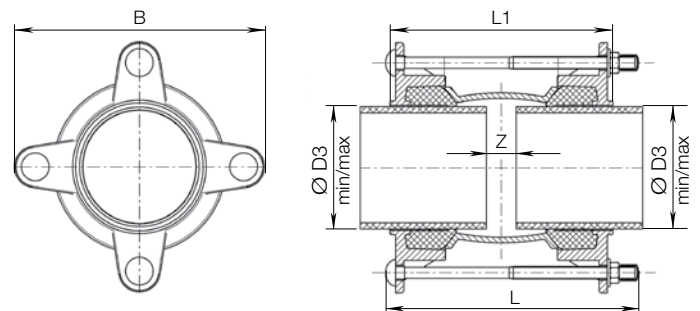
- Body** made of ductile iron, epoxy powder coated
- Lock ring** made of ductile iron, epoxy powder coated
- Gasket** made of elastomer
- Bolts and nuts** made of steel, dacromet coated

Easy-Connect coupling No. 7979



Illustrations: Symbol

Application example



Socket 1 DN	Socket 2 DN	MOP (PN)	Socket 1			Gap Z		Socket 2			L	L1	Weight			
			B	Ø Pipe D3 min/max	Bolts	min.	max.	B	Ø Pipe D3 min/max	Bolts						
50	50	16	170	58 - 74	2 x M 12-200	12	40	170	58 - 74	2 x M 12-200	200	175	3,0			
65	65		183	68 - 84	4 x M 12-200			183	68 - 84	4 x M 12-200			3,6			
80	80		210	84 -105				210	84 -105				5,0			
100	100		223	99 - 119				223	99 - 119				5,4			
			244	109 - 133	244			109 - 133	6,0							
125	125		268	133 - 157	268			133 - 157	6,7							
			296	157 - 182	296			157 - 182	4 x M 12-220	220	195	9,5				
150	150		308	177 - 201	308			177 - 201			185	9,8				
			322	194 - 215	322		194 - 215	195	10,3							
200	200		354	218 - 242	4 x M 12-240		50	354	218 - 242		4 x M 12-240	240	210	13,5		
			403	242 - 268	6 x M 12-240			403	242 - 268	6 x M 12-240	16,3					
250	250		405	266 - 291	6 x M 12-260			60	405	266 - 291	6 x M 12-260			260	240	17,4
			424	280 - 305					424	280 - 305						19,0
300	300		443	302 - 327					443	302 - 327		20,0				

The data concerning the min. and max. gap is calculated on the minimum outside diameter of the product's range



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KRAMMER-Easy-Connect FLANGE ADAPTOR

Multi-range connection for all common types of pipes



Design features

- Connection suitable Multi-range connection for all common types of pipes
- Wide tolerance of the outer diameter of the pipe
- Separate hydraulic sealing
- Angle compensation max. 6° (+/- 3° each socket)
- Easy and quick installation
- Flange drilling according to EN 1092-2 | PN 10, 16
- The resilience of the connection prevents tension in the pipe and minimises the danger of breakage

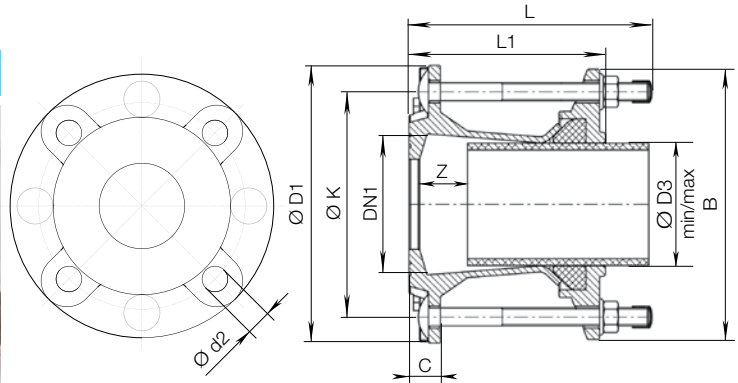
Material

- Body** made of ductile iron, epoxy powder coated
- Lock ring** made of ductile iron, epoxy powder coated
- Gasket** made of elastomer
- Bolts and nuts** made of steel, dacromet coated

Application example

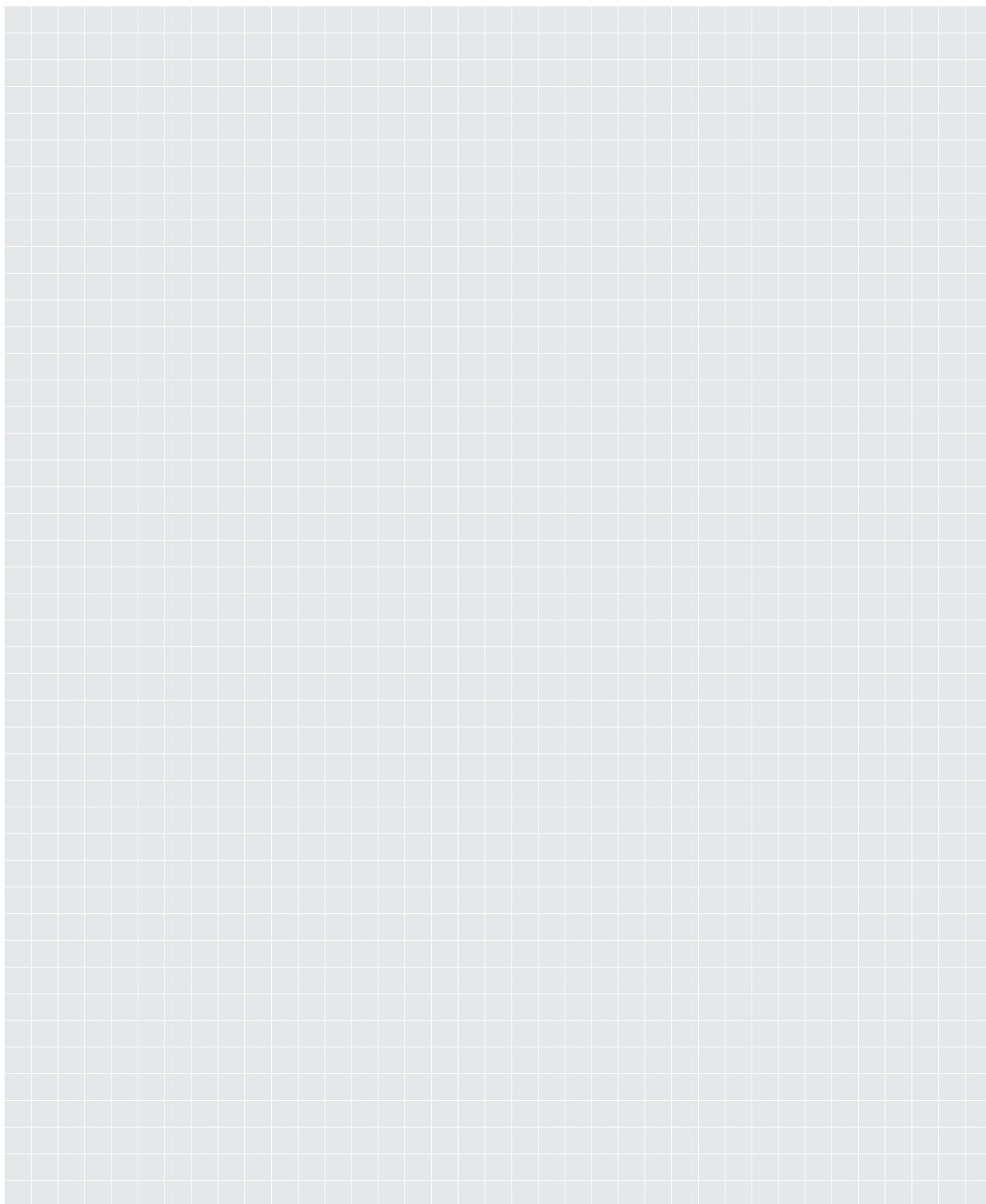


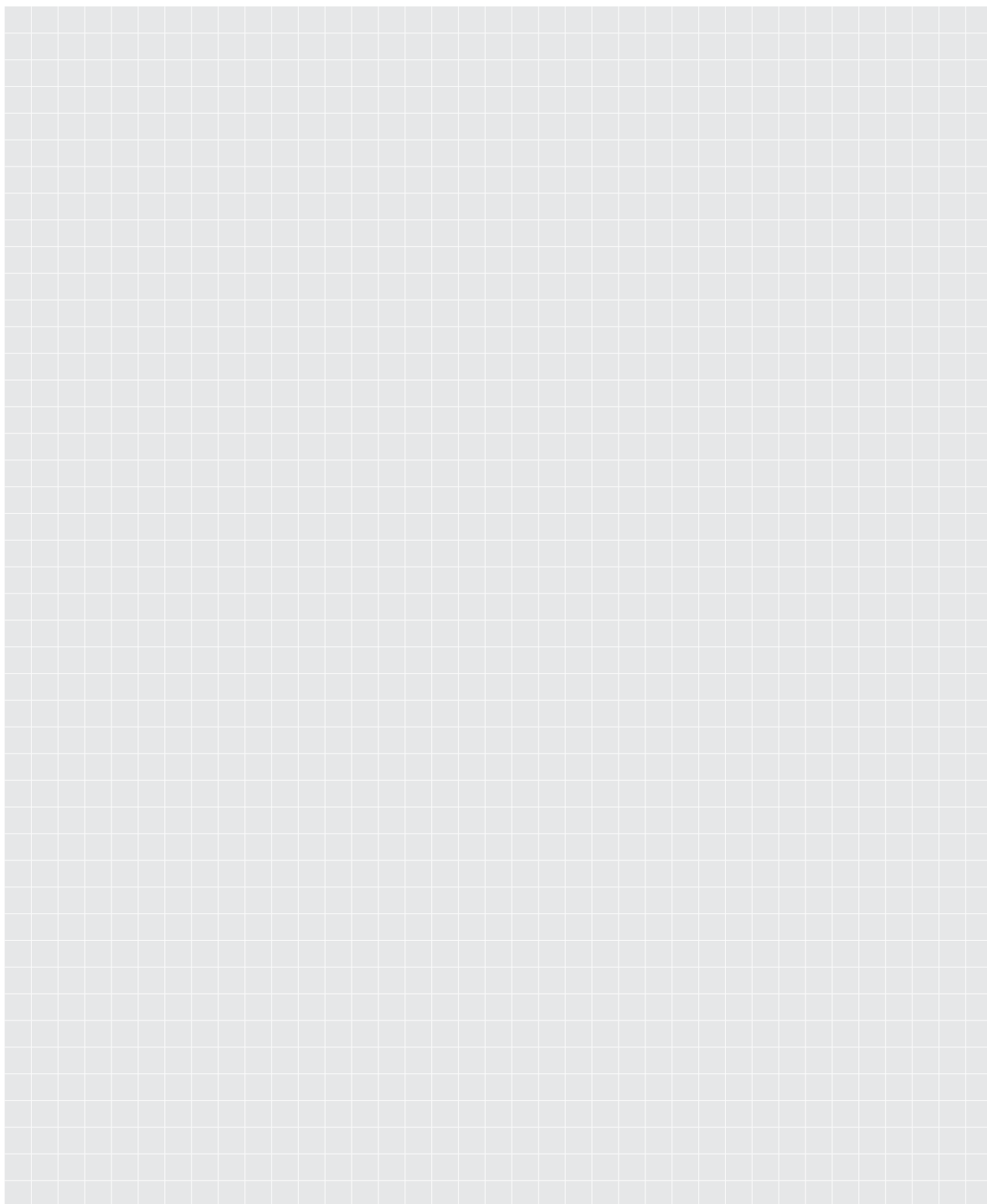
Easy-Connect flange No. 7999



Flange DN1	Socket DN	MOP (PN)	Flange							Socket		Gap Z min. max.		L	B	L1	Weight
			Ø D1	C	Ø K	Type of flange	Bolts			Ø Pipe D3 min/max	Bolts						
							Qty.	Thread	Ø d2								
50	50	10 16	165	20	125	a,b,c,d	4	M 16	19	58 - 74	2 x M 12-170	40	70	204	170	135	3,9
	65	10 16			125	a,b,c,d				68 - 84	4 x M 12-170			204	183		4,2
65	65	10 16	185		145	a,b,c,d	4	M 16	19	68 - 84	4 x M 12-170			204	183		4,5
80	80	10 16	200		160	a,b,c,d	8	M 16	19	84 - 105	4 x M 12-170			194	210	5,2	
100	100	10 16	230		180	a,b,c,d	8	M 16	19	99 - 118	4 x M 12-170	188	223	140	5,9		
		10 16			180	a,b,c,d				109 - 133	4 x M 12-170	225	244		6,5		
125	125	10 16	285		210	a,b,c,d	8	M 16	19	133 - 157	4 x M 12-190	35	80	235	268	145	8,4
150	150	10 16			240	a,b,c,d	8	M 20	23	133 - 157	4 x M 12-190			240	268		9,2
		10 16			240	a,b,d				157 - 182	4 x M 12-190			251	296	150	10,0
200	150	10 16	343	23	295	a,b,d	8 12	M 20	23	194 - 215	4 x M 12-190	20		261	322		12,0
	200	10 16		295	a,b	8 12	218 - 242			4 x M 12-190	269	354		155	14,4		
250	200	10 16	406	25	350 355	a,b	12	M 20 M 24	23 28	242 - 268	6 x M 12-190	35	314	403	160	17,4	
	200	10 16			350 355	a,b		M 20 M 24	23 28	266 - 291	6 x M 12-190		314	405	167	17,8	
	250	10 16		350 355	a,b	M 20 M 24		23 28	280 - 305	6 x M 12-190	325		424	21,0			
300	300	10 16	483	26	400 410	a,b,d	12	M 20 M 24	23 28	302 - 327	6 x M 12-190		344	443		23,7	

The data concerning the min. and max. gap is calculated on the minimum outside diameter of the product's range
Type of flange: a. EN 1092 PN 10, PN 16 | b. ANSI B16. CL125 | c. BS 10 TABLE D | d. BS 10 TABLE E



A large rectangular area filled with a light gray grid pattern, intended for taking notes.

1. General

All our legal transactions, deliveries, other services and offers are exclusively subject to the Conditions of Sale given below. Any terms and conditions of the buyer to the contrary of or in deviation from our Conditions will not be accepted, unless we have expressly consented to the applicability thereof.

2. Prices and terms of payment

The documents included in the our offers such as drawings, figures and weight specifications shall be taken for approximate values only, unless they are expressly defined as binding. This shall apply, in particular, to obvious errors, typing errors, misprints and calculation errors. We reserve ownership and copyright in drawings, cost estimates and other documents. No such documents may be disclosed to any third party.

Our offers and price lists are subject to confirmation - unless expressly agreed otherwise - and shall become binding only upon our written confirmation of the order or any act of implementation performed by us (such as delivery/dispatch of goods). Unless otherwise agreed, the prices are ex works, not including packaging. In national and international merchandise traffic the delivery clause pursuant to Incoterms 2000 EXW (ex works) shall apply, unless otherwise agreed upon in writing.

Any changes in the cost of labour as a consequence of collective bargaining, legal regulations or in-house arrangements, as well as changes in other costs relevant for calculation and for goods and services, such as costs for material, energy, transportation, outsourcing, financing, etc., shall entitle us to increase our prices accordingly. Any orders confirmed by us are excluded from a possible price change. On grounds of such price increase, the customer shall not be entitled to withdraw nor to assert frustration of the contract.

Unless otherwise agreed, payment shall be effected within 30 days net. Payments are always credited against the oldest debts. Any offsetting against claims raised on our part shall be excluded.

In the event that the customer is in arrears with his payments, we shall be discharged from any further contractual obligation and delivery commitment. Moreover, we shall be entitled to retain outstanding deliveries and services or to demand payment in advance and/or guarantees. If the customer's financial circumstances are substantially worsening after conclusion of the contract, or if we come to know of circumstances that are apt to reduce the customer's creditworthiness in our opinion, then we shall be entitled to change the maturity of unsettled claims, and to adjust the terms and conditions for future legal transactions with immediate effect.

3. Delivery

Orders confirmed by us will be fulfilled by us as quickly and as far as possible. The delivery dates specified by us are for information only and without responsibility.

4. Reservation of title

Until payment in full we retain title to all goods delivered by us.

5. Warranty

Standard EN 805 or an equivalent international standard is deemed to be agreed between us and the customer. In cases of warranty it is deemed to be agreed that the pressure test is performed before filling the pipe trench.

The customer shall inspect the quantity and quality of the goods received immediately after their arrival. Any notice of defect shall be asserted in writing by the customer immediately after receipt of the shipment, but not later than within 10 days after delivery and before machining or processing. Otherwise any warranty claims and/or claims for damages and/or avoidance on the ground of error shall be excluded. However, a notice of defect does not entitle the customer to retain amounts invoiced or parts thereof. In general, warranty obligations relate to the defective product and do not extend to expenditures otherwise related to the remedy of the defect, such as excavation costs, labour time and travel expenses. It is left to our discretion whether we prefer to fulfil our warranty obligations by way of replacement, improvement, price reduction or cancellation of the contract.

The onus of proof that the delivered goods were defective at the time of delivery lies with the customer.

6. Compensation and liability

Our advisory service, whether provided verbally or in writing, is for information only and without responsibility, and it does not release our customer from his own duty to check, if our products are suitable and qualified for the intended purpose. This particularly applies, without being restricted thereto, to the suitability of our products for the media intended to be conducted therein (gases and/or liquids).

For any damage incurred by our customer in the course of a business transaction we shall be liable up to a maximum amount not exceeding the value of goods ordered, and only in case of our own gross negligence or the gross negligence of any person acting on our behalf, excepting personal injuries, in case of which we shall be liable already in case of slight negligence. Any compensation for consequential damage, pure financial loss, loss of profit and damages resulting from third party claims shall be excluded. The onus of proof for gross negligence lies with the injured party. The time limit for asserting any compensation claims is one year from getting knowledge of the damage and of the injuring party.

In the event that our customer should be held liable on grounds of the Product Liability Act, he undertakes to inform us immediately by phone or in writing, and to tell us the address of the claimant, otherwise any right of recourse of the customer against us under product liability will expire. Negotiations regarding claims under product liability regarding any of our products shall be held exclusively by us.

7. Place of performance, place of venue, applicable law

The place of performance for delivery and payment shall be A-4840 Vöcklabruck. The exclusive place of venue for all disputes arising out of this contract shall be the court having jurisdiction as regards the subject matter for A-4840 Vöcklabruck. This agreement shall be exclusively subject to the substantive law of Austria, expressly excluding the conflict of law rules as well as the UN Sales Convention (CISG).

The logo for hawle, featuring the word "hawle" in a lowercase, sans-serif font. A blue swoosh underline starts under the 'h', goes under the 'a' and 'w', and then loops back under the 'l' and 'e'.

hawle

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