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Bredel

Bredel Hose Pumps B.V.

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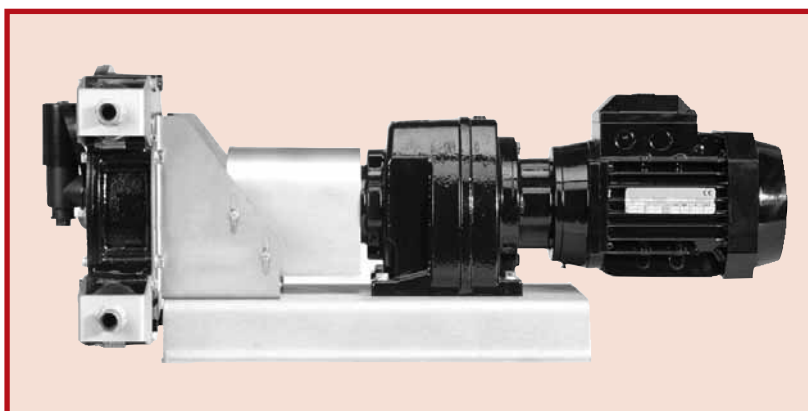
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PetroProof

Heavy duty hose pumps for hydrocarbon type of liquids



Features

- Highly suitable for:
 - many hydrocarbon type of liquids
 - shear sensitive products
 - viscous products
 - abrasive and high density products
 - vacuum situations
- Self priming to 95% vacuum [5 kPa.a.]
- Can run dry, i.e. can pump without fluid continuously
- Reversible rotation
- Can be used as a metering pump
- Replacement of hose without dismantling pump
- Easy to clean: smooth liquid passage without valves, cavities or glands
- No metal to metal contact
- Product pumped does not contact mechanical parts or seals
- Bearings, greased for life
- Designed and built for discharge pressures up to 5 bar [500 kPa]
- Low noise level
- 100% positive flow (no slip)
- Only one wearing part: the pump hose
- Easy maintenance, low cost, short down time
- Permanent lubrication of pump hose with specially compounded lubricant
- Any drive system possible
- Represented all over the world

Principle of operation

A hose made of a special property compound, enclosed within a casing that has inserts at both ends. These inserts are connected to the suction and discharge lines of the system. Within the casing is a rotor with three specially shaped integral pressing shoes. The rotor is mounted on a shaft with two bearings. As the rotor rotates, the hose is totally compressed by the integral pressing shoe and the product within the hose is pushed forward. At the front of the pump is a removable cover with an inspection facility. The pump casing is filled to approximately halfway the casing with a specially compounded lubricant which functions as a coolant as well.

Technical specifications

PetroProof hose pumps			10-10	10-15	15-15	15-20	25-25
• Inner diameter pump hose	[mm]		10	15	15	20	25
• Capacity	[l/h]	①	26-131	43-216	101-378	144-540	330-825
• Capacity per revolution	[ml/rev]	②	29	48	84	120	275
• Number of revolutions	[rpm]		15-75	15-75	20-75	20-75	20-50
• Starting torque	[Nm]	③	120	120	300	300	1000
• Running torque 500 kPa	[Nm]	④	14	14	27	39	85
• Shaft diameter	[mm]	⑤	18	18	22	22	30
• Maximum discharge pressure			5 bar - 500 kPa				
• Maximum product temperature			40 °C				
• Chemical resistance			Listed at the back page				

How to select the right pump and drive?

Select pump type (requested capacity) [l/hr] ①

Calculate the number of revolutions (requested capacity [l/hr] divided by capacity per revolution [ml/rev]) ②

Select your **drive**; consider calculated number of revolutions & starting torque ③ & running torque ④

Select a suitable **coupling**; calculated number of revolutions & starting torque ③ & running torque ④

& shaft dimensions of pump ⑤ and drive

Example

Requested capacity: 78 l/hr. = PetroProof 10-10

78 l/hr. = 78,000 ml/hr = 1,300 ml/min → 1,300 ml/min : 29 ml/rev = 45 rpm

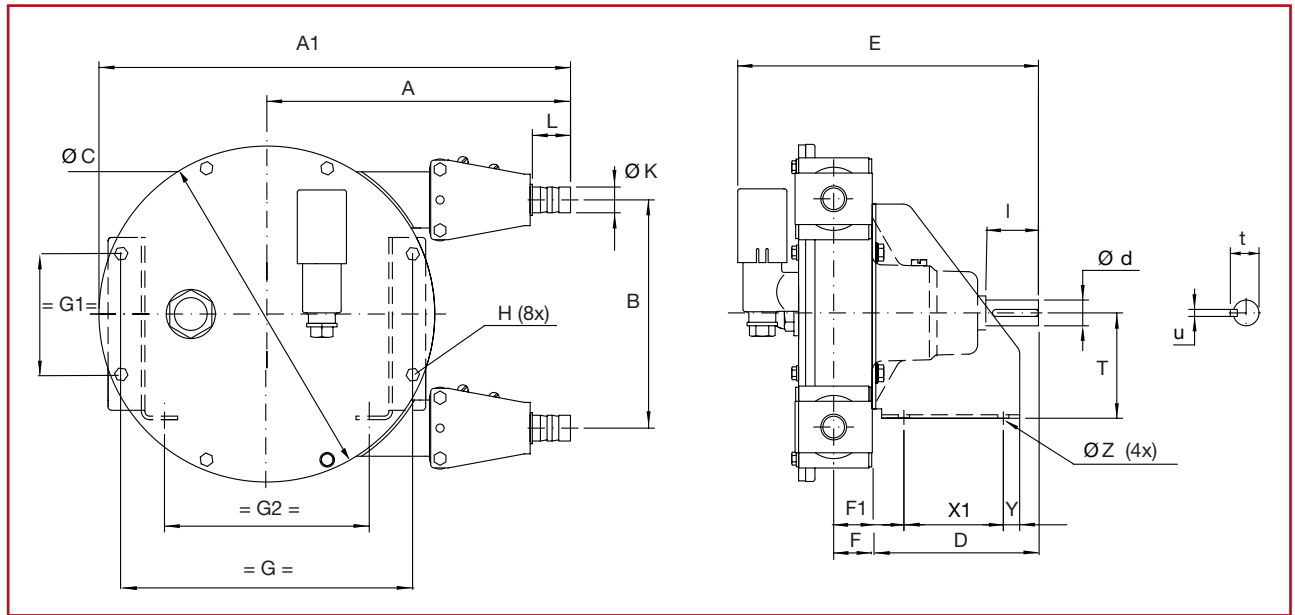
45 rpm / 120 Nm / 14 Nm → see **drive catalogue** of the supplier or contact your representative

45 rpm / 120 Nm / 14 Nm / pump shaft PetroProof 10-10 = Ø 18mm + dimension of drive shaft → see **coupling catalogue** of the supplier or contact your representative

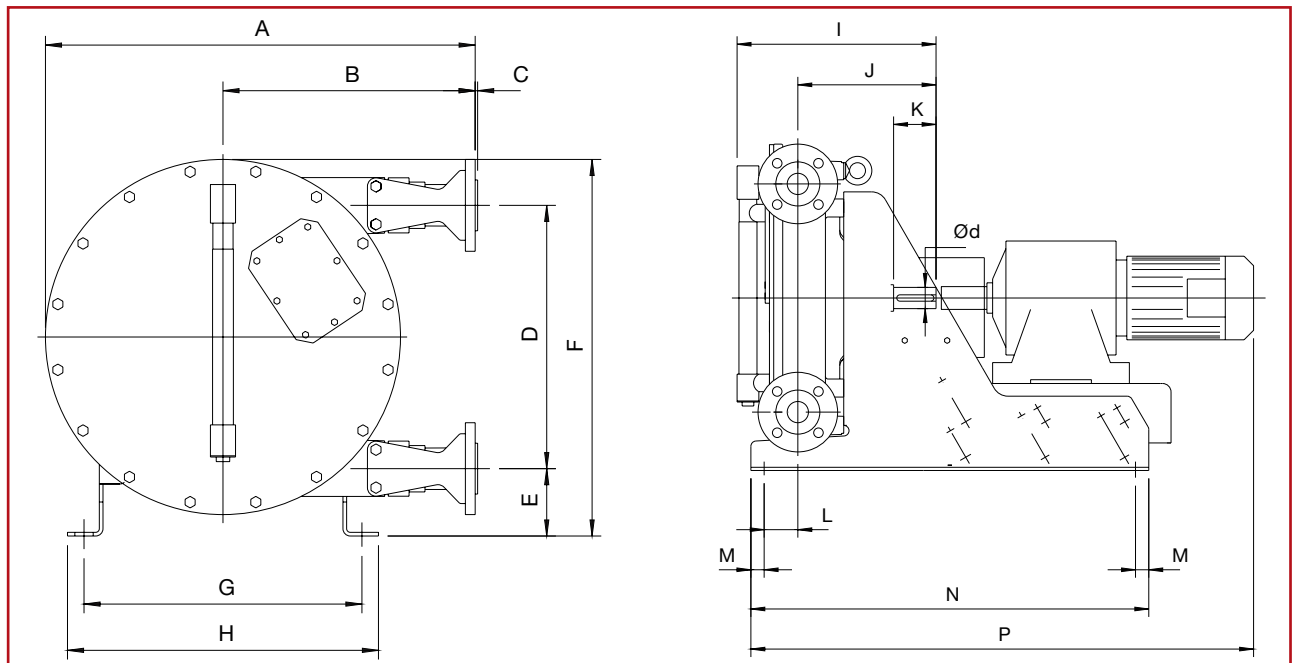
Specific characteristics pump head

- Rotor - Rotor with three specially shaped integral pressing shoes; cast iron; shimming not necessary
- Material inserts - AISI 316; inserts PetroProof hose pump series 10-10 up to 15-20 are welded to its brackets

Dimensions All dimensions in [mm]



Type	A	A1	B	C	D	E	F	F1	G	G1	G2	H	K	L	T	X1	Y	Z	d	l	u	t
10-10	196	293	116	Ø194	117	220	28	55	162.6	67.4	175	M8	Ø16	27	90-120	85	14	Ø9.0	Ø18k6	39	6	20.5
10-15	201	298	116	Ø194	117	220	28	55	162.6	67.4	175		Ø20	32	90-120	85	14	Ø9.0	Ø18k6	39	6	20.5
15-15	260	403	195	Ø288	142	257	33	60	249.5	103.4	175		Ø20	32	90-120	85	14	Ø9.5	Ø22k6	45	6	24.5
15-20	263	406	195	Ø288	142	257	33	60	249.5	103.4	175		Ø22	33	90-120	85	14	Ø9.5	Ø22k6	45	6	24.5



Type	A	B	C	D	E	F	G	H	I	J	K	L	M	N	d	P
25-25	490	304	2,5	264	98	416	322	366	285	192	60	51	25	600	30k6	*

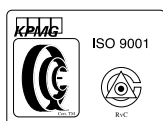
* contact your representative

Chemical resistance PetroProof hoses

Chemicals	Code	Chemical formula	Remarks
Fuels Petrol/Gasoline (leaded & unleaded) Diesel Kerosene	A A A	HC C ₄ -C ₇ HC C ₁₁ -C ₁₄ HC C ₈ -C ₁₀	HC = Hydrocarbon
Oils ASTM #1 oil (paraffinic mineral oil) Motor oil ASTM #2 oil/IRM902 oil (naftenic mineral oil) ASTM #3 oil/IRM903 oil (aromatic mineral oil) Hydraulic oil/Transformer oil Brake fluid Fatty acids/vegetable oils	A A B C C C		At room temperature probably "A" At room temperature probably "B"
Halogenated hydrocarbons 1,1,2,2-tetrachloro ethane Chloroform Tetrachloro ethylene Trichloro ethylene	A C C C	C ₂ H ₂ Cl ₄ CHCl ₃ C ₂ Cl ₄ C ₂ HCl ₃	
Organic solvents Toluene Acetone Diethylether (ether) Ethanol (ethyl alcohol) Ethyl acetate	B/C A/B A/B A/B C	C ₆ H ₅ CH ₃ CH ₃ COCH ₃ C ₂ H ₅ OC ₂ H ₅ C ₂ H ₅ OH C ₂ H ₅ O ₂ C ₂ H ₅	
Acids Acetic acid Phosphoric acid Nitric acid Hydrochloric acid Sulfuric acid	A A A A A	CH ₃ COOH H ₃ PO ₄ HNO ₃ HCl H ₂ SO ₄	Max. 10% Max. 30% Max. 10% Max. 10% Max. 30%
Bases Ammonium hydroxide (ammonia) Sodium hydroxide (caustic soda)	A A	NH ₄ OH (NH ₃ in H ₂ O) NaOH	Max. 10% Max. 10%
Salt solutions Calcium chloride Zinc chloride	A A	CaCl ₂ ZnCl ₂	
Miscellaneous Water Hydrogen peroxide	A C	H ₂ O H ₂ O ₂	<60 °C (also applicable for aqueous solutions)

Other chemicals on request

Resistance codes: **A** = Good **B** = Fair **C** = Poor



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