

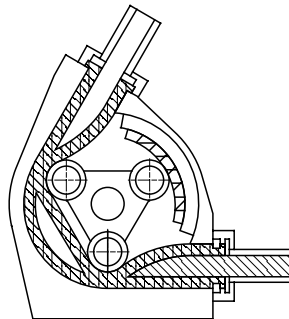
Z SERIES



THE PERISTALTIC PRINCIPLE

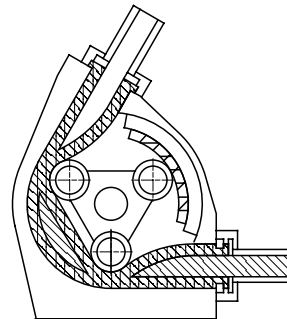
The peristaltic pumping principle is based on the capacity of a soft elastomer hose to accept a deformation and subsequently recover its initial shape

The flow obtained is a function of the hose bore and the pumps rotational speed.



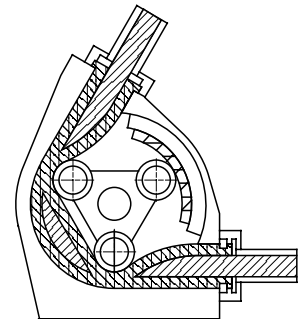
1. Suction:

The roller first compresses the pump hose occluding it completely. As the roller moves on, the hose recovers its initial shape. This creates the necessary suction to draw in the product.



2. Transfer:

The volume of product contained between two rollers is transferred along the hose from the suction to the delivery end.



3. Delivery:

Under the pressure of the second roller the product is pumped into the delivery pipeline.

TECHNICAL ADVANTAGES

Many advantages result from this simple pumping principle.

Self priming

Self priming is automatic on start up and does not require any special equipment. A flooded suction is only required for viscous products > 10,000 cP

Dry running

Occasional dry running is possible without damage occurring. The pumped liquid acts in fact as a lubricant and coolant for the tube, however, continual dry running accelerates tube wear.

Sealless design

No leaks along the pump shaft, as it is not in contact with the product.

Corrosive products

Only the pump hose is in contact with the fluid. This eliminates all the corrosion problems associated with acidic (hydrochloric sulphuric, nitric...) or basic (detergents sodium hydroxide or hypochlorite) products.

Abrasive products

The elastomer hose resists better to abrasion than a metallic surface. The low running speed further reduces the abrasion caused by slurries.

Delicate products

The transfer inside the pump tube is carried out without agitating or frothing the product. This characteristic coupled to the low running is essential for pumping delicate products or emulsions (latex...).

Reversibility

The symmetric design of the pump makes it perfectly reversible by acting simply on the direction of rotation. The characteristics and maximum performance are identical for both directions.

Maintenance

The only wearing part being the pump tube, maintenance is limited to the hose's periodic lubrication and its replacement if necessary (a rapid operation that does not involve dismantling the pump).

THE APPLICATIONS

The technical advantages of the Delasco pump place it in many applications over a wide range of industries.

This table summarizes only a few of the possible applications. There are obviously many others in various domains.

ACTIVITY	APPLICATIONS
• Chemical and petrochemical	Emptying of drums containing corrosive products Transfer of effluents slurries
• Surface treatment	Emptying of used baths Regeneration of baths. Recycling.
• Effluent treatment	Sampling duties (pH control...) Dosing of lime, reactants (ferric chloride, ferric sulphate...), and flocculants
• Food industry	Dosing of preservatives, yeast and lactic ferments Recovery from mixers and mills Feeding of filling machines
• Ceramic industry	Pumping of ceramic slip
• Wood and derivatives	Dosing of fire-proofing compounds and hardeners
• Paper and cardboard	Pumping of waste waters Feeding of printing and gluing lines
• Cosmetics and pharmaceuticals	Extraction from reaction vessels Transfer of thick products (creams, shampoos, gels...)

THE RANGE

Pumps :
8 versions
are available

Each model corresponds to a range of flow rates determined by the internal diameter of the hose in mm :

HZ15 : $Q \leq 0,6 \text{ m}^3/\text{hour}$	CZ27 : $Q \leq 2,5 \text{ m}^3/\text{hour}$	LZ50 : $Q \leq 14 \text{ m}^3/\text{hour}$
BZ20 : $Q \leq 1,2 \text{ m}^3/\text{hour}$	EZ35 : $Q \leq 6,2 \text{ m}^3/\text{hour}$	NZ60 : $Q \leq 19,6 \text{ m}^3/\text{hour}$
JZ23 : $Q \leq 1,8 \text{ m}^3/\text{hour}$	GZ40 : $Q \leq 7,6 \text{ m}^3/\text{hour}$	

The maximum allowable discharge pressure is 1.5 bar.

Drives :

The following table presents the standard configurations available. Please let us know of any specific requests (voltage, frequency, IP65, tropicalization, flameproof..).

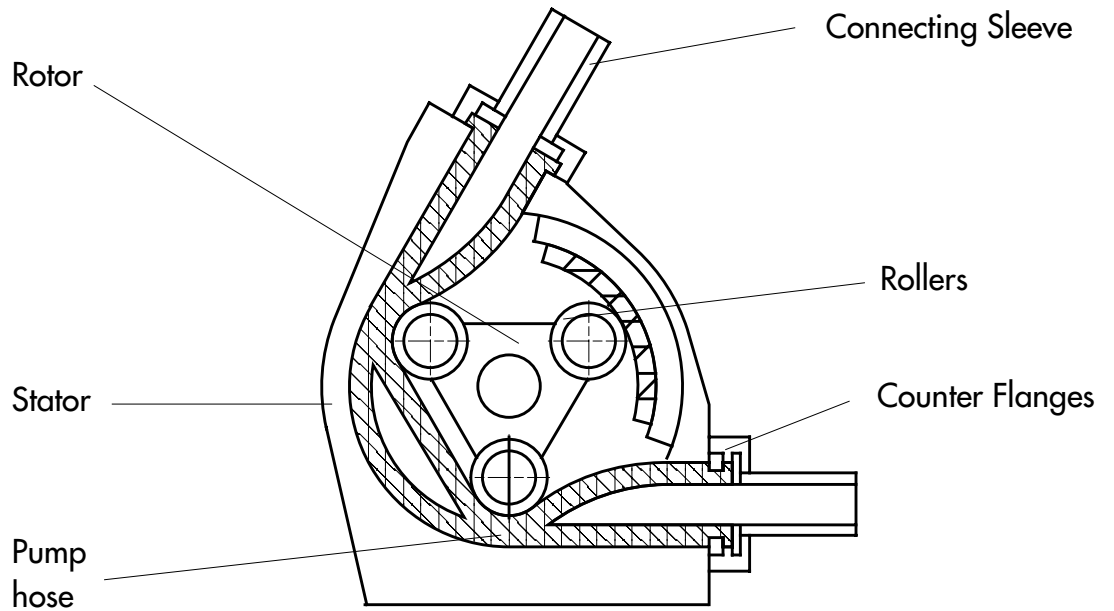
Pumps	Kw	Three Phase or Single Phase ▲																Variable speed gearmotor	Three Phase * IP55 * Explosion Proof ▲
		IP55 or explosion proof ▲																	
	RPM	42	58	62	66	99	104	106	141	145	156	182	194	200	Min/Max speed				
HZ 15 * BZ 20 *	0,12	☒			☒											☒	16 to 93 rpm		
	0,18					☒			☒							☒	32 to 186 rpm		
	0,25														☒	☒	16 to 94 rpm		
JZ 23 * CZ 27 *	0,18	☒														☒	33 to 188 rpm		
	0,25			☒												☒			
	0,37							☒								☒			
EZ 35 * GZ 40 *	0,55									☒					☒				
	0,55		☒												☒	☒	16 to 94 rpm		
	0,75					☒									☒	☒	33 to 188 rpm		
LZ 50 *	1,10															☒			
	1,50		☒												☒	☒	16 to 94 rpm		
	2,20										☒				☒	☒	33 to 188 rpm		
NZ 60	3,00															☒			
	1,10		☒													☒	14 to 80 rpm		
	2,20								☒						☒	☒	35 to 190 rpm		
	4,00											☒		☒	☒				

* Bareshaft pump from stock

☒ Available pumpset (4 weeks delivery)

☒ Pumpset from stock

COMPONENTS



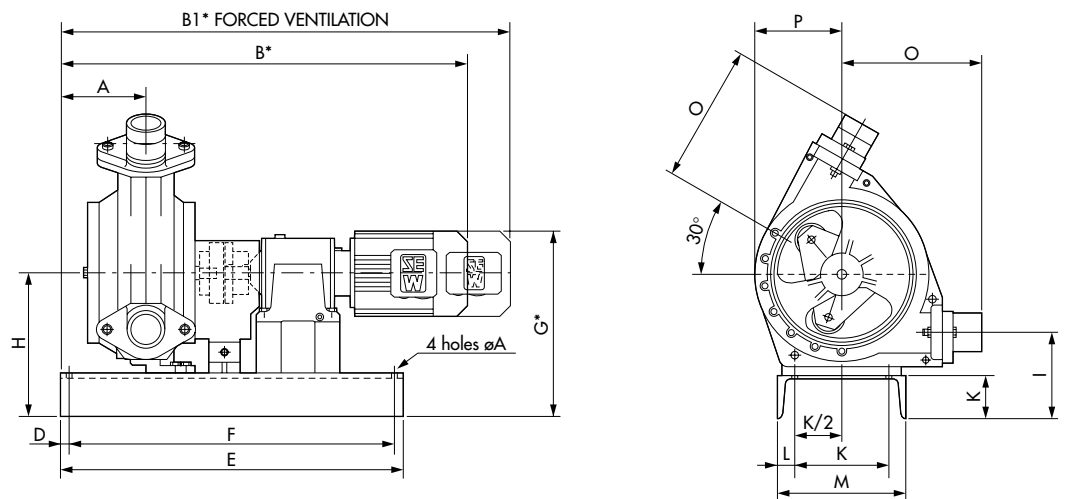
COMPONENT	MATERIAL	COMMENTS
Rollers (3)	Stainless Steel	The occlusion of the hose is achieved by the compression of the rollers.
Stator	Aluminium Alloy	
Rotor/Shaft	Steel	
Connecting sleeves and counterflanges (2)	Polypropylene or optional stainless steel	Possible connections : serrated (as standard), threaded, flange, weld neck, quick coupling (cam lock or symmetric), SMS food couplings.
Pump hose	See table below	Injection moulded tube with spine. Quick and easy replacement. The elastomers available cover a wide range of duties and applications.

MATERIAL	PRODUCTS	TEMPERATURE
NEOPRENE	Common acids and bases. Non aggressive chemical products. Caustic soda - Detergents - Surface treatment baths.	5 to 95° C.
HYPALON	Strong acids Sulphuric acid and concentrated bleach.	5 to 95° C.
EPDM	Acid and other mild chemicals.	5 to 90° C.
THERMOPLASTIC	Chemical compatibility similar to EPDM. Available in white (FDA approved) on certain models.	5 to 95° C.
NATURAL RUBBER	Abrasive slurries in suspension.	5 to 60°C.
BUTYL	Certain solvents (acetone) and alcohols.	5 to 60°C.
SILICONE	Cosmetic and pharmaceutical products	5 to 60°C.

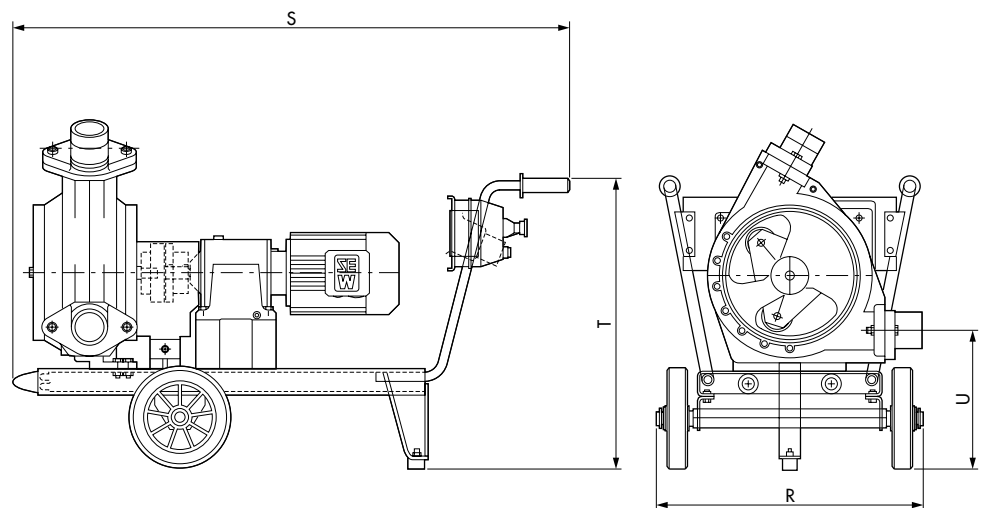
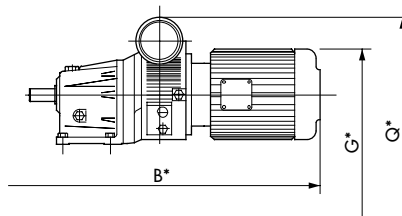
STANDARD GENERAL ARRANGEMENT DRAWINGS

PLAN

FIXED SPEED GEARMOTOR



VARIABLE SPEED GEARMOTORS



TROLLEY MOUNTED PUMPSETS

DIMENSIONS : * Maximum dimensions given (variations DVE to type of motor used)

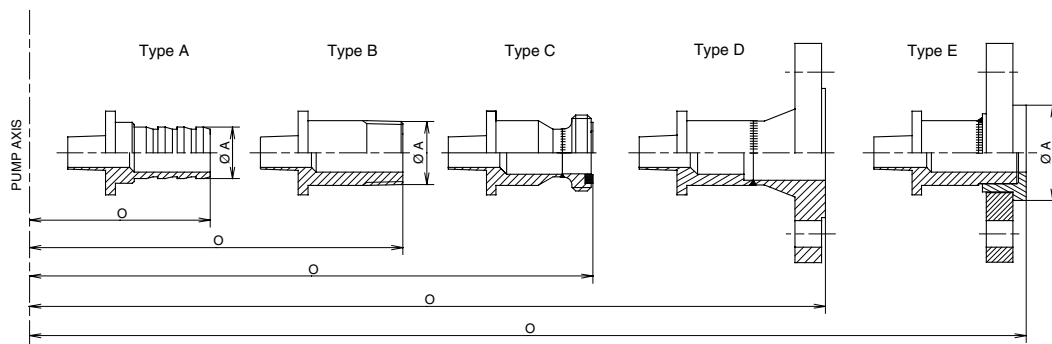
DIMENSIONS TABLE

	FIXED SPEED GEARMOTORS							VARIABLE SPEED GEARMOTORS						
	HZ15	BZ20	JZ23	CZ27	EZ35 GZ40	LZ50	NZ60	HZ15	BZ20	JZ23	CZ27	EZ35/GZ40	LZ50	NZ60
	R32 DT63 L4	R32 DT63 L4	R32 DT80 K4	R32 DT80 K4	R40 DT90 L4	R60 DT100 L4	R60 DV112 M4	11.712.02.08	11.712.02.08	11.712.03.10	11.712.03.10	11.712.05.12	11.712.05.12	11.712.06.16
A	127	138	149,5	153	179	197	197	127	138	149,5	153	179	197	197
B*	533	561	632	651	836	950	985	693	720	775	784	998	1027	1141
B1*	-	-	748	768	937	1051	1070	-	-	-	-	-	-	-
D	20	20	20	20	20	20	20	20	20	20	20	20	20	20
E	540	540	560	560	700	800	800	540	540	560	560	700	800	800
F	500	500	520	520	660	760	760	500	500	520	520	660	760	760
G*	273,5	268,5	298,5	322,5	403,5	435,5	447,5	284	279	310	335	397,5	429,5	442
H	210	205	226	250	305	337	337	210	205	226	250	305	337	337
I	149,5	136	145	162,5	187,5	202	202	149,5	136	145	162,5	187,5	202	202
J	80	80	80	80	100	100	100	80	80	80	80	100	100	100
K	150	150	150	150	220	220	220	150	150	150	150	220	220	220
K/2	75	75	75	75	110	110	110	75	75	75	75	110	110	110
L	35	35	35	35	40	40	40	35	35	35	35	40	40	40
M	220	220	220	220	300	300	300	220	220	220	220	300	300	300
N	-	-	-	-	-	-	-	105	105	105	105	152	152	152
O	DEPENDING ON CONNECTION TYPE (PLEASE REFER TO CONNECTION TABLE)													
P	97	108	122	132	175	202	228	97	108	122	132	175	202	228
Q*	-	-	-	-	-	-	-	303	328	352	376	467	499	525
R	480	480	480	480	652	652	652	480	480	480	480	652	652	652
S	1133	1133	1133	1133	1364	1364	1364	1133	1133	1133	1133	1364	1364	1364
T	724	724	724	724	712	712	712	724	724	724	724	712	712	712
U	246	237	247	263,5	327,5	342	342	246	237	247	263,5	327,5	342	342
∅ A	14	14	14	14	14	14	14	14	14	14	14	14	14	14

Approximate dimensions only. Not for construction. Request certified prints.

CONNECTION TYPES

Standard pumps are supplied with type A connections. Other connection types available on request



	TYPE A			TYPE B			TYPE C			TYPE D						TYPE E		
	Serrated PP			Threaded PP or 316L			SMS thread 316L			ISO PN16 flange Type 11 316L			ISO PN20 flange Type 11 316L			PN10-16 Rotating flange PP		
	ØA	O		ØA	O		DN	O		DN	Sched	O	DN	Sched	O	DN	ØA	O
					PP	316L												
HZ 15	27	157		R1"	157	142	25	160		25	40	180	25	40	198	25	50	162
BZ 20	34	190		R1 1/4"	190	160	38	183		32	40	200	32	40	217	32	61	195
JZ 23	34	206		R1 1/4"	206	179	38	202		32	40	219	32	40	236	32	61	211
CZ 27	40	231		R1 1/2"	231	204	38	227		40	40	246	40	40	266	40	73	236
EZ 35	53	315		R2"	315	255	51	280		50	40	300	50	40	319	50	90	320
GZ 40	53	315		R2"	315	255	51	280		50	40	300	50	40	319	50	90	320
LZ 50	-	-		R3"	326	301	76	331		80	40	351	80	40	371	80	125	333
NZ 60	-	-		R3"	326	301	76	331		80	40	351	80	40	371	80	125	333

MOUNTING

Pumpsets are mounted as standard on steel baseplates (stainless steel as optional extra). Other standard versions are available such as :

- Trolley mounted mobile units
- Portable quick intervention pumps

CHARACTERISTICS

Density:

Maximum specific gravity: 1.8. For heavier fluids please consult us.

Solid particles:

The maximum solid size should not be more than 1/3 of the hose bore. For soft particles (fruit, meat, fish...), the maximum size allowed can be larger.

Dry matter:

Dry matter concentration can be up to 25-60% depending on the fluid density. The pump running speed should be carefully selected to avoid solid/liquid segregation and subsequent clogging.

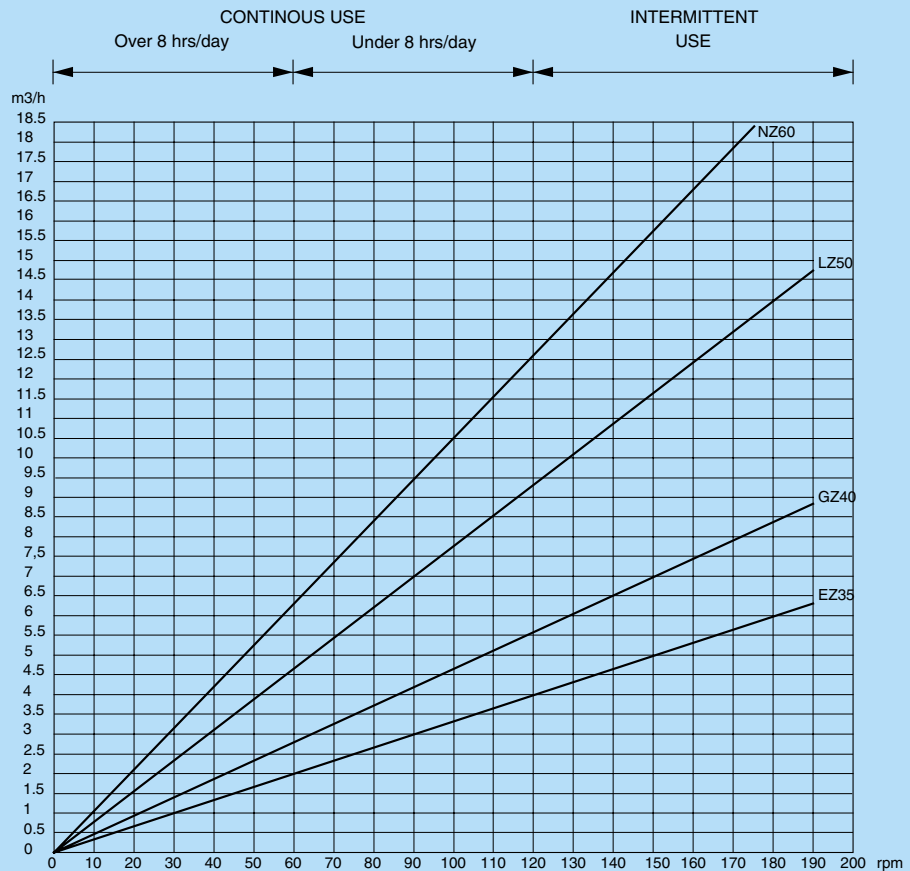
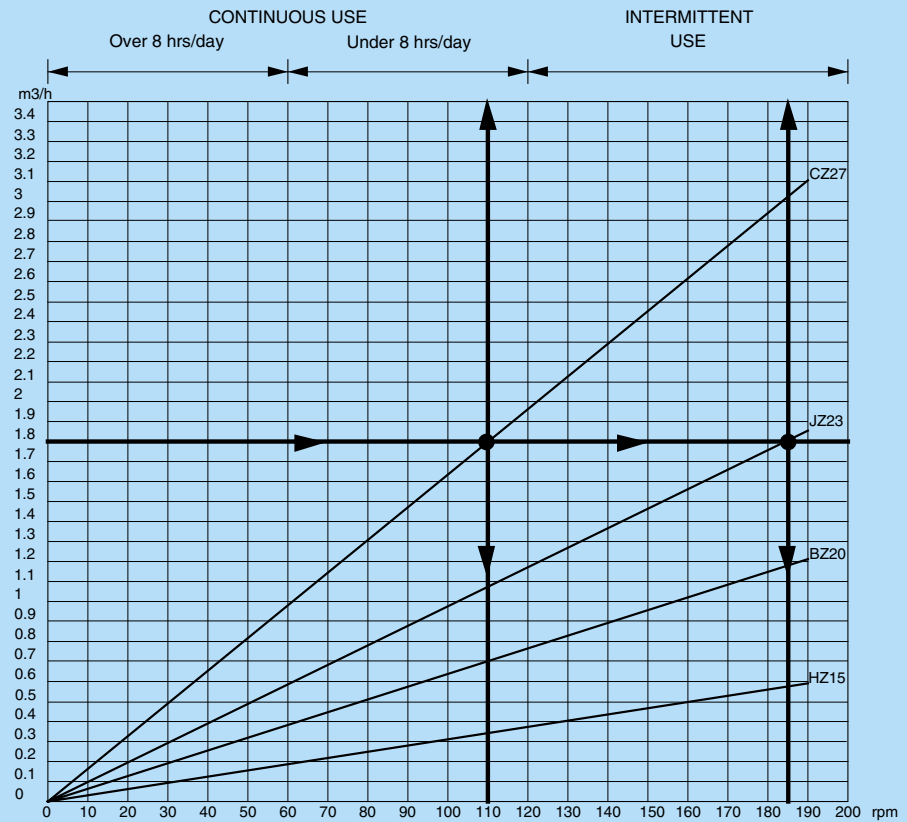
Viscosity:

Up to 15,000 centipoise depending on its hose size and rotational speed (in case of doubt, we can examine a sample and carry out a pumping test).

CHARACTERISTICS

Example : For a flow rate of $1.8 \text{ m}^3/\text{hr}$, we can select either a CZ27 at 110 rpm or a JZ23 at 185 rpm. In the first case the pump will be capable of running up to 8 hrs/day. In the second case, the pump should only be used on an intermittent basis to extend the wear life of the pump hose.

FLOW CURVES ON WATER BASIS



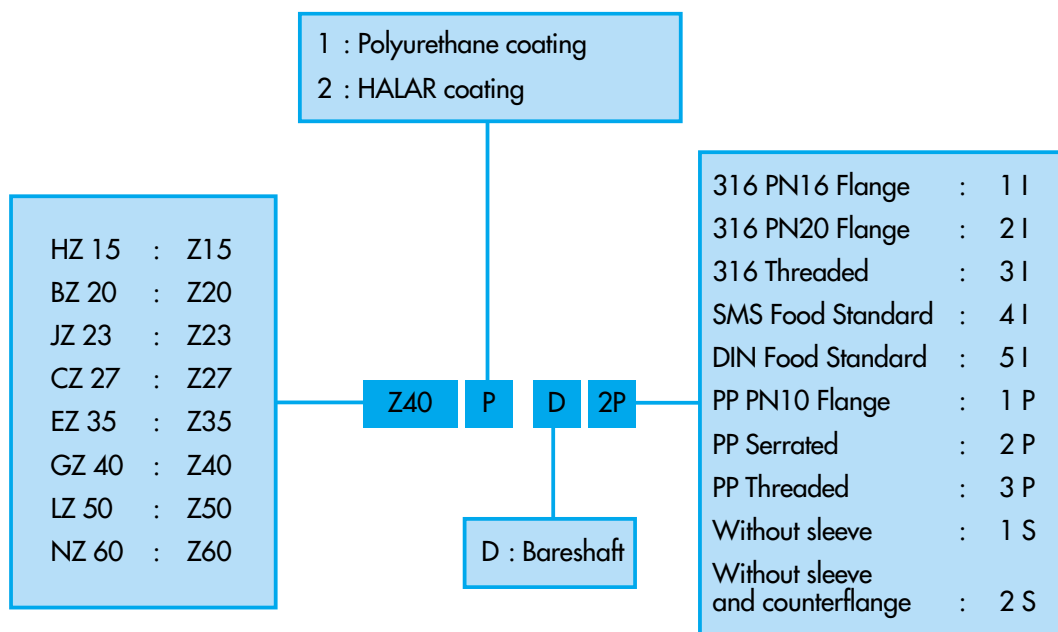
Flow curves on water basis at 20 C.
Neoprene Tube

Suction :
negligible

Delivery :
0-1 bar

HOW TO SPECIFY

PUMP CODE :



HOSE CODE :

Pump Hose	HZ15	BZ20	JZ23	CZ27	EZ35	GZ40	LZ50	NZ60
NEOPRENE	036022.261	032022.261	310022.261	033022.261	034022.261	035022.261	039022.261	050022.261
HYPALON	036022.180	032022.180	310022.180	033022.180	034022.180	035022.180		
EPDM	036022.EPD		310022.EPD	033022.EPD	034022.EPD	035022.EPD	039022.EPD	
NATURAL RUBBER	036022.155	032022.155	310022.155	033022.155	034022.155	035022.155	039022.155	
BUTYL	036022.BUT	032022.BUT	310022.BUT	033022.BUT				
SILICONE	036022.SIL		310022.SIL					
BLACK THERMOPLASTIC				033023.TPN				
FOOD THERMOPLASTIC				033023.TPA				

For all pumpset order, please indicate:

ELECTRICAL: Voltage: CURRENT: direct single phase
 Frequency: alternating three phase
 Ingress protection:IP... AREA: safe flame proof
 explosion proof
 PNEUMATIC: Available air pressure

DELASCO

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