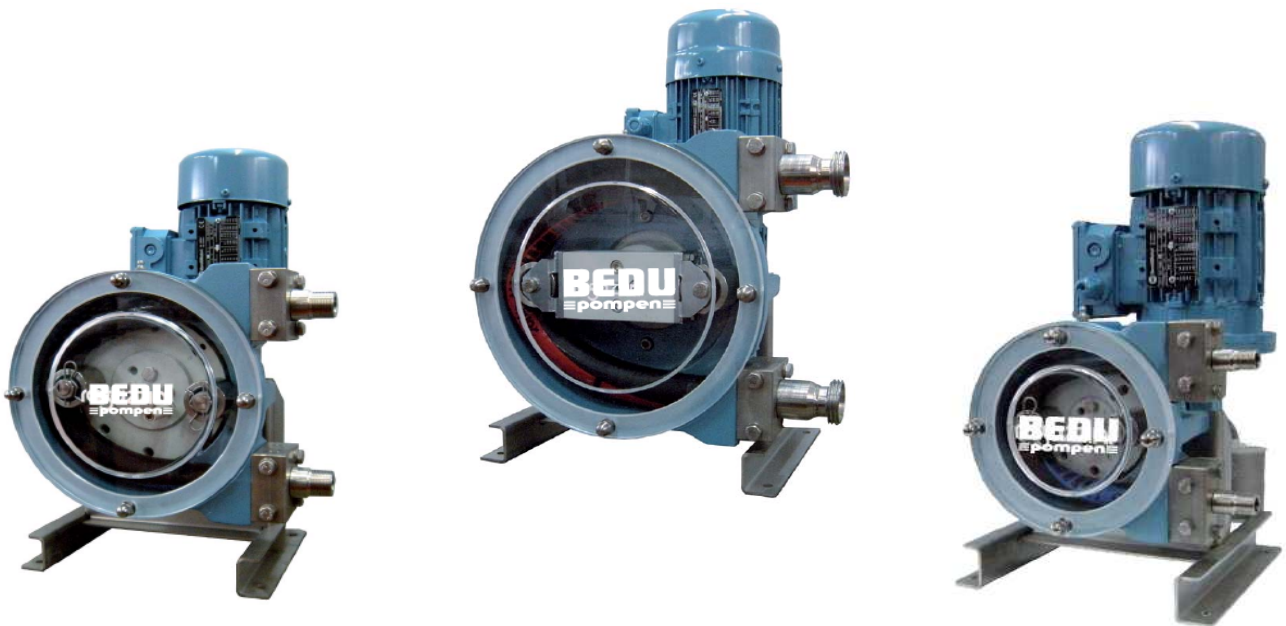


**BEDU**  
≡ POMPEN ≡

# Peristaltic pumps

PSF 1 / PSF 2 / PSF3 / PSF3S

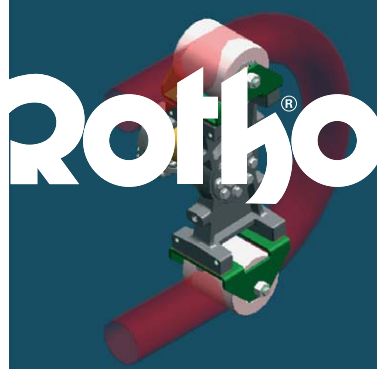


**made for your process**



# Simple Principle

The basic principle of the peristaltic pump traces back to human “peristalsis” a term referring to the alternating contraction and relaxation of muscles around a tube to force the contents through it. An elastomeric tube is squeezed along a length by rollers that push the fluid contained within. The tube’s restitution after squeezing produces a vacuum that draws fluid continuously into the tube. This creates a gentle pumping action that doesn’t cause any damage to the product. Contaminations are avoided because the fluid is contained within the tube (one contact part with product). The pump employs a rotor with rollers mounted on it that continually compress and occlude some portion of the tube. This action moves the fluid through the tube with a constant rate of displacement for each revolution of the rotor, enabling a precise measurement of the volume of fluid pumped through the tube.



# The Rotho Pump

The “roller on bearings” design of the Rotho pump offers many advantages:

- It eliminates the requirement for adding a lubrication fluid inside the pump housing, because there is no friction on the surface of the tube therefore giving a longer tube life.
- **it requires smaller drives, so less power installed, compared to others peristaltic pumps, to get the same rpm and capacity.**
- They can transfer food products with no contamination hazards, as the pump housing is lubrication free.
- With no lubrication fluid required, hose replacement is greatly simplified and cheaper without having to drain and dispose of a messy and possibly contaminated oil or glycerine solution.



# Advantages

No seals

No valves

Self priming

Only tube to replace

Reverse flow by reversing motor

No contact between product and mechanical parts

Can run dry without damage

Able to pump products with solid parts inside

Suitable for CIP applications

# Uses

Transfer, feed, meter, filter of:

Fragile or sensitive fluids

Compound fluids

Abrasive and corrosive fluids

Non pollutable or pollutant fluids

# Fields of application



Ceramic



Chemical



Water and waste treatments



Food & beverage



Metallurgy



Pulppaper



Construction



Painting and pigment



Ink



Mining



Marine



Biogas

## Abrasive Products

The Rotho pump is excellent on abrasive slurries where it has had much more success than other pumps. The Rotho pump parts stay out of the product zone and the hose is the only one thing that is in contact with the product, this keeping abrasive wear to a minimum.

Products that crystallize are also well pumped by the Rotho pump.

There are no valves or glands so the eventual build up of crystals could not clog the pump.



## Corrosive Products

With corrosive fluids the hose selection is of paramount importance to the longevity of the pump. With the correct hose selection and no other contact mechanical parts in the product, this ensures a long pump life.



## Fluids With Solid Parts Or Sensitive Products

A problematic product for many pump types is fluids with solid particles such as waste water with gravel, pieces of wood, concrete or foods, where as the peristaltic pump due to free tube-passage can easily transfer it without any product or pump damage.

The Rotho pump is also a good choice for transferring shear-sensitive fluids or foamy products, the non emulsifying action minimises damage to the product or its consistency.



## Viscous Products

The Rotho pump gives a strong self-priming suction which can draw almost full vacuum, producing the pull necessary to draw viscous materials such as honey, grout, resins or waste sludge, which is almost impossible for many other pump types.

## Environmental Applications

There are two main environmental applications for the Rotho pump:

- Chemical metering
- Sludge transfer

### 1) Chemical metering:

The most common is for Sodium Hypochlorite, Sodium Bisulfite, Ferric Chloride and some polymers, as well as lime slurry and carbon slurry. Above all with sodium hypochlorite that emits off gas, the Rotho pump doesn't lose efficiency due to pockets of air, pumping together both liquid and gas

### 2) Sludge:

The Rotho pump can handle many different kinds of sludge depending upon the level of treatment in a plant. It can feed and transfer thickened sludge, waste activated sludge, return activated sludge and corrosive sludge.





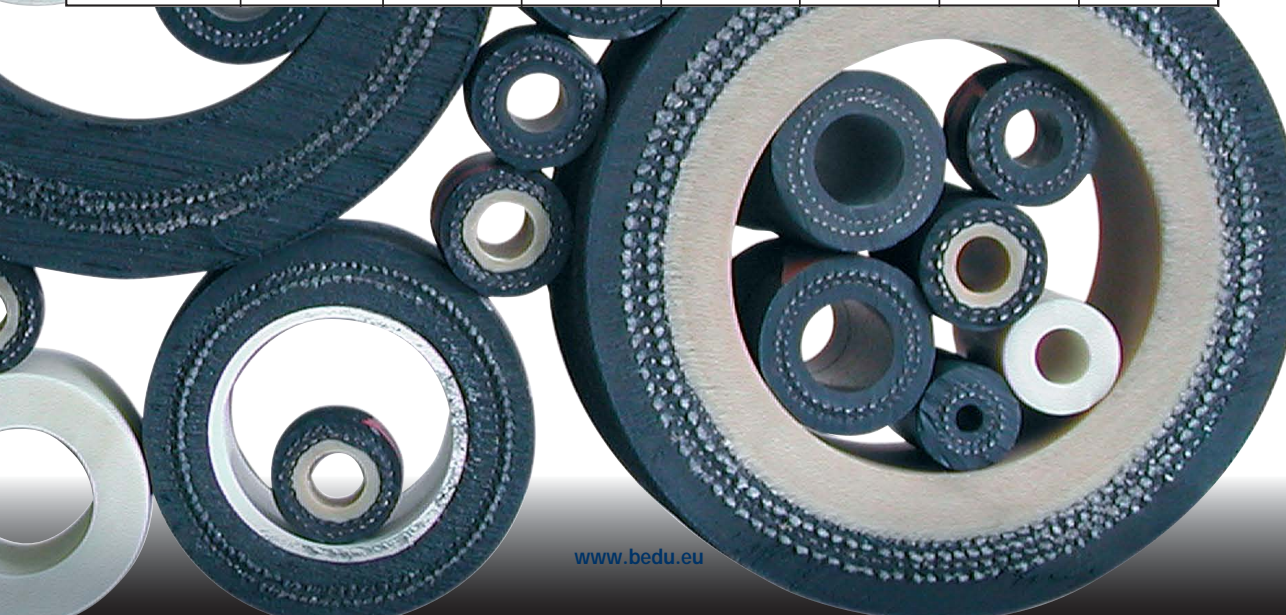
# ROTHO tube

It is an elastomeric tube right for duty service and its selection depends by the product to pump, pressure, temperature; it is a multilayer hose with 2, 4 or 6 textile insert reinforcement depends by its dimension and pressure to win.



# The right hose for the right product

Hose Colour Identification	BLE	RED	GREEN	YELLOW	WHITE	ORANGE	BEIGE
Hose mark	<b>NN</b>	<b>NP</b>	<b>EP</b>	<b>RN</b>	<b>RF</b>	<b>HY</b>	<b>PH</b>
Composition	NATURAL ISOPRENE	Substrate for food products NATURAL ISOPRENE	Monomer Ethylene-Propylene EPDM	Nitril-Butadiene Substrate for foods NBR	Nitril-Butadiene For foods NBR	Polyethylene Chlorosulphonate HYPALON	PHARMED Thermoplastic Elastomer-base. Polypropylene
Technical features	Multilayer hose with textile insert reinforcement.	Multilayer hose with textile insert reinforcement.	Multilayer hose with textile insert reinforcement.	Multilayer hose with textile insert reinforcement.	Multilayer hose with textile insert reinforcement.	Multilayer hose with textile insert reinforcement.	Omogeneous tube, without textile insert.
TEMP. C°	-10 +85	-10 +75	-10 +95	-10 +75	-10 +75	-10 +85	-20 +135
PRESS. BAR	-0,9 +8 (15)	-0,9 +6(8)	-0,9 +8	-0,9 +6(8)	-0,9 +6(8)	-0,9 +8 (15)	-0,5 +1,5/2
Compatibility	Excellent behaviour for abrasive liquids and moderately aggressive liquids and fluids for high pressure.	Similar to NN type, suitable for foods products.	Suitable for chemical use and for relatively high pressure.	Suitable for oils, greases, hydrocarbons and various solvents.	Suitable for alimentary use, oils and fats.	Suitable for concentrated acids, alkaline liquids.	Suitable for alimentary and pharmaceutical products, (liquid).
Mechanical characteristics	Resistance/Duration HIGH	Resistance/Duration HIGH	Resistance/Duration MEDIUM	Resistance/Duration MEDIUM	Resistance/Duration HIGH	Resistance/Duration HIGH	Resistance/Duration HIGH
	Hose available for all models.	Hose available for all models.	Hose available for all models.	Hose available for all models.	Hose available for all models.	Hose available for all models.	Available for PSF serie only.
Alimentary classification		FDA-CFR 21 Parts 170 to 199 Item 177.2600			FDA 1777.2600 DM 21-3.73 IV B		FDA 177. 2600 NSF CRITERIA
For cleaning: C.I.P. and S.I.P. Suggest to remove the tube.		To sterilize whit water to 70° and solution of 5% volume surface-active agent, rinse with cold water.  Washing with steam to 120°, for max. 3 minutes.			To sterilize with water to 70° and solution of 5% volume surface-active agent, rinse with cold water.  Washing with steam to 120°, for max. 3 minutes.		To sterilize with hot water and neutral nonoil soaps. Rinse with distilled water.  Possibility to autoclave sterilization.





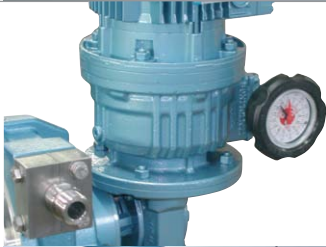
# Accessories and Optionals

## Connections



Flanges DIN; ANSI;  
DIN 11851 Threaded , Clamp, Tri-clamp, RJT, BSP threaded  
In: S.S. 316,  
PVC, PVDF, PTFE  
Polypropylene,  
Titanium

## Variable gear speed



Ratio 1-5

## Frequency inverter



Possible arrangement  
for analogical signal 4-20mA, 0-10V.

## Pulse dampeners



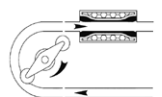
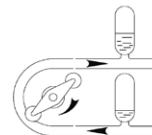
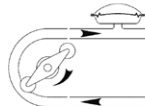
The pulse dampeners are suggested in case of negative suction and pressure over 2 bar;  
they ensure a better pump working  
and a longer tube life.

Three types are available:

Membrane

Empty vessel

Flexible tube





The models of MS and SDF Serie can be equipped of feeder to feed products with solid parts or sensitive parts.

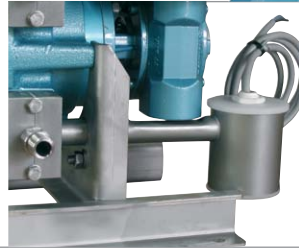


**Feeder**

All Rotho pumps (optional for PSF Serie) are equipped of leak detector to provide early indication of hose failure. This is a float type sensor that is located at the lowest point of the pump housing.



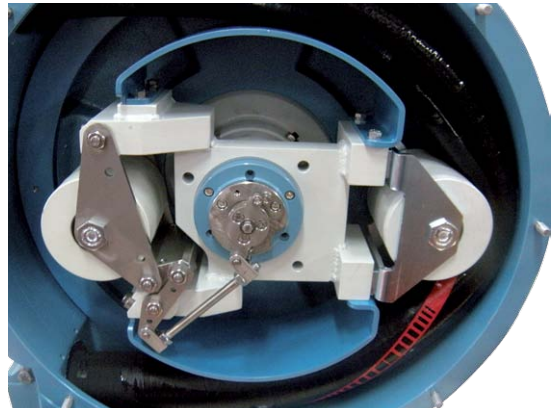
**Leak detector**



The “retractable” position of the roller is instrumental in increasing the lifetime of the tube element. When the pump is not in use for a certain period of time, the tube element can be separated from the roller from outside the pump by activating the rapid release mechanism of the retractable roller, quickly and safely without opening the pump casing.

This new positioning system is essential for all those pumps used for fully automated foodstuff handling that requires regular cleaning and sterilization of all components in contact with the product.

In this case, the retractable roller quickly releases the tube element, ensuring perfect CIP and SIP cleaning procedures whenever required.



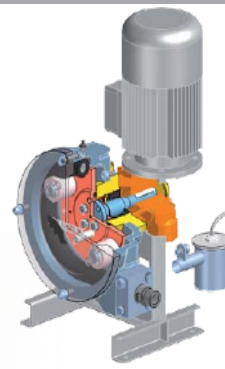
**Retractable roller**

ATEX CERTIFICATION  
II GROUP – CAT. 2/3 – ZONE 1-2



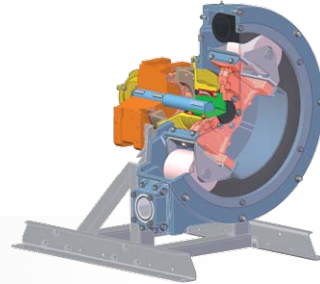
## PSF serie

Capacity/h from 1lt up to 3.100 lt  
Pressure up to 8-15 bar  
Tubes diameter 5; 10; 16; 26 mm



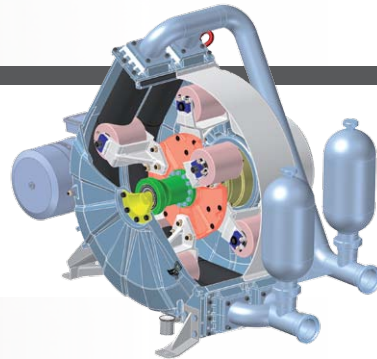
## MS serie

Capacity/h from 1.000 lt up to 18.000 lt  
Pressure up to 8-15 bar  
Tubes diameter 34; 40; 55; 68 mm



## SDF serie

Capacity/h from 10.000lt up to 70.000 lt  
Pressure up to 8-15 bar  
Tubes diameter 76; 90 mm

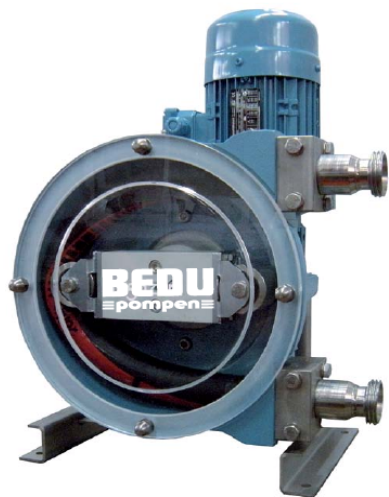


## SDR serie

Capacity/h from 80.000lt up to 180.000 lt  
Pressure up to 8-15 bar  
Tubes diameter 114; 127 mm



# PSF1

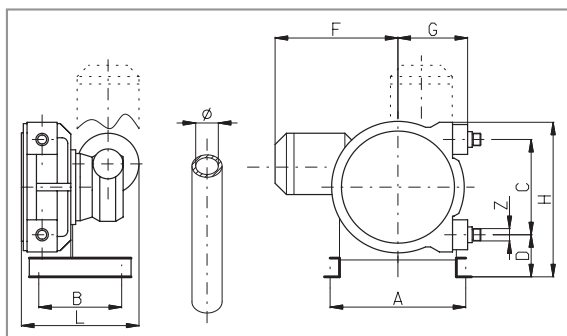


RPM	Lt/h	0-4 bar		Kw
		BAR		
		std	max	
14	308,8	2	4	0,37
18	398,4	2	4	0,37
22	488,1	2	4	0,37
31	689,9	2	4	0,37
37	824,4	2	4	0,37
47	1048,6	2	4	0,75
58	1295,2	2	4	0,75
74	1654,0	2	4	0,75
93	2079,9	2	4	0,75
117	2618,0	2	2	1,1
140	3133,7	2	2	1,1

RPM	Lt/h	4-8 bar		Kw
		BAR		
		std	max	
14	302,4	4	8	0,37
18	390,2	4	8	0,37
22	478,1	4	8	0,37
31	675,8	4	8	0,37
37	807,5	4	8	0,75
47	1027,2	4	8	0,75
58	1268,8	4	8	1,1
74	1620,2	4	8	1,1
93	2037,5	4	6	1,1

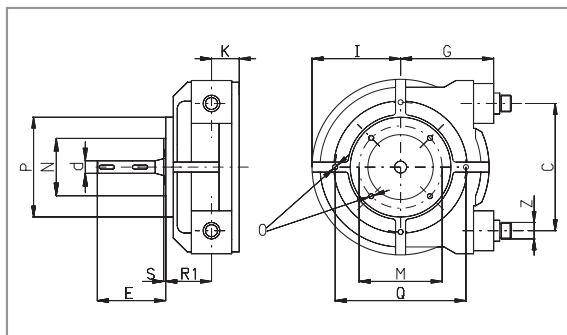
variable gear speed 0-4 bar							Kw
RPM		Lt/h		BAR			
max	min	max	min	std	max		
10	1,9	219	37	2	4	0,75	
13	2,4	286	49	2	4	0,75	
16	3	354	62	2	4	0,75	
22	4,2	488	89	2	4	0,75	
26	5	578	107	2	4	0,75	
33	6,3	735	136	2	4	0,75	
42	7,9	937	172	2	4	0,75	
53	10	1183	219	2	4	0,75	
67	12,7	1497	280	2	4	0,75	
83	15,8	1856	349	2	3	0,75	
100	19	2237	421	2	3	0,75	
143	27,1	3201	602	2	1,5	0,75	

variable gear speed 4-8 bar							Kw
RPM		Lt/h		BAR			
max	min	max	min	std	max		
10	1,9	215	37	4	8	0,75	
13	2,4	280	48	4	8	0,75	
16	3	346	61	4	8	0,75	
22	4,2	478	87	4	8	0,75	
26	5	566	105	4	8	0,75	
33	6,3	720	133	4	8	0,75	
42	7,9	917	168	4	6	0,75	
53	10	1159	215	4	6	0,75	
67	12,7	1466	274	4	4	0,75	



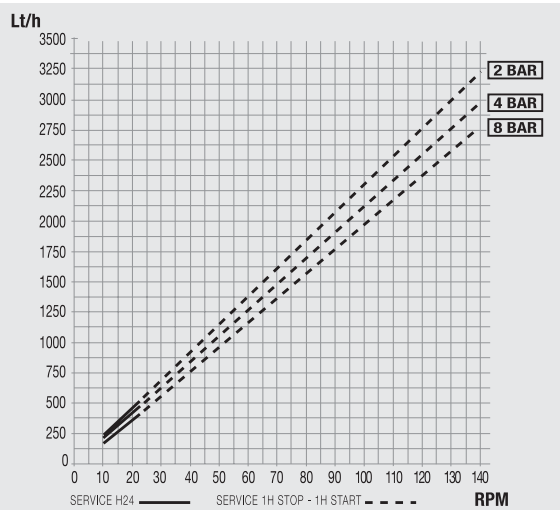
DIMENSIONS

MOD.	Ø mm	Z UNI338	LT/RPM	MAXBAR	A mm	B	C	D	F	G	H	L
PSF1	26	1" 1/4 BSP	0.380	8	350	220	255	108	370	185	416	315

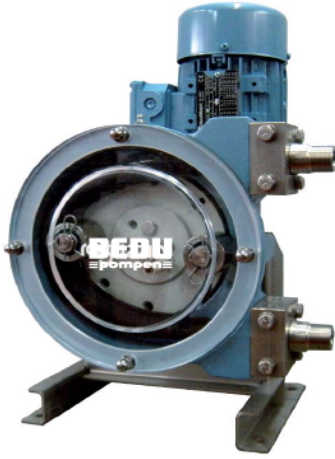


DIMENSIONS

MOD.	Z UNI 338	E	d j6	M	N f7	P	O	I	R1	Q	S	K
PSF1	1" 1/4 BSP	136	25	150	115	200	M10	176	93	260	4	53



# PSF2

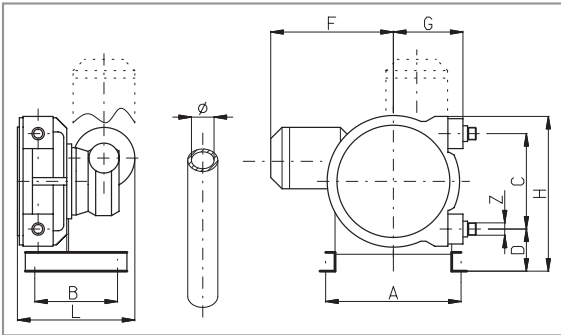


RPM	Lt/h	0-4 bar		Kw
		BAR		
		std	max	
14	75,6	2	4	0,18
20	108,5	2	4	0,18
23	124,9	2	4	0,18
30	163,4	2	4	0,18
40	218,2	2	4	0,37
50	273,1	2	4	0,37
70	382,8	2	4	0,37
100	547,4	2	2	0,37
140	766,9	2	2	0,37

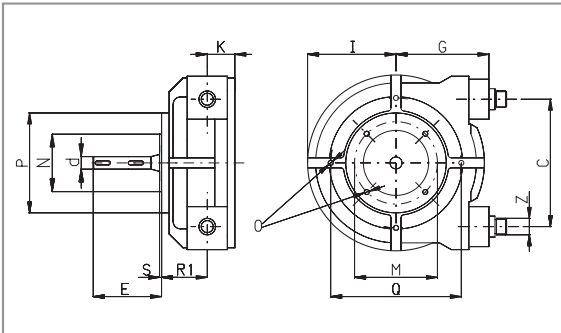
RPM	Lt/h	4-8 bar		Kw
		BAR		
		std	max	
14	74,0	4	8	0,18
20	106,3	4	8	0,18
23	122,4	4	8	0,18
30	160,0	4	8	0,18
40	213,8	4	8	0,37
50	267,5	4	8	0,37
70	375,0	4	8	0,37

variable gear speed 0-4 bar							
RPM		Lt/h		BAR		Kw	
max	min	max	min	std	max		
9	1,9	48	9	2	4	0,18	
13	2,7	70	14	2	4	0,18	
15	3,2	81	16	2	4	0,18	
20	4,1	108	21	2	4	0,18	
29	5,4	158	28	2	4	0,37	
36	6,8	196	36	2	4	0,37	
50	9,5	273	51	2	4	0,37	
71	13,6	388	73	2	4	0,37	
100	19	547	103	2	2	0,37	
143	27,1	783	147	2	2	0,37	

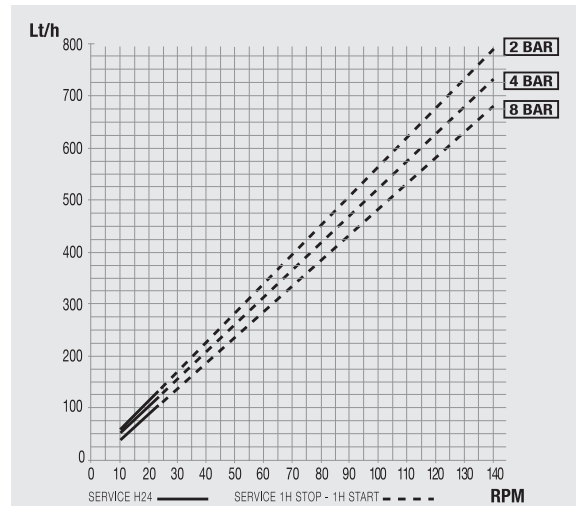
variable gear speed 4-8 bar							
RPM		Lt/h		BAR		Kw	
max	min	max	min	std	max		
9	1,9	47	9	4	8	0,18	
13	2,7	69	13	4	8	0,18	
15	3,2	79	16	4	8	0,18	
20	4,1	106	21	4	8	0,18	
29	5,4	155	28	4	8	0,37	
36	6,8	192	35	4	8	0,37	
50	9,5	268	50	4	8	0,37	
71	13,6	380	72	4	6	0,37	



DIMENSIONS												
MOD.	Ø mm	Z UNI338	LT/RPM	MAX BAR	A mm	B	C	D	F	G	H	L
PSF2	16	3/4" BSP	0.093	8	230	160	170	110	290	140	315	242



DIMENSIONS												
MOD.	Z UNI 338	E	d j6	M	N f7	P	O	I	R1	Q	S	K
PSF2	3/4" BSP	84	18	87	60	140	M8	120	87	180	3	41





# PSF3

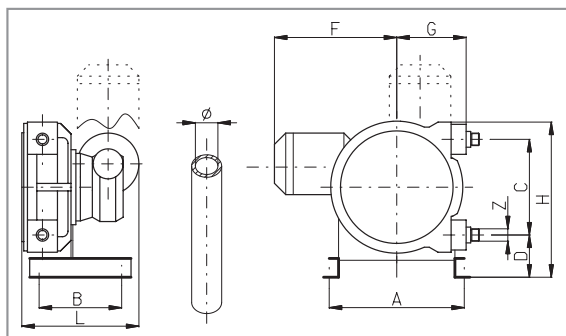


RPM	0-4 bar				Kw
	Lt/h	BAR			
		std	max		
14	19,5	2	4	0,18	
20	28,0	2	4	0,18	
23	32,2	2	4	0,18	
30	42,2	2	4	0,18	
40	56,3	2	4	0,18	
50	70,5	2	4	0,18	
70	98,8	2	4	0,18	
100	141,3	2	4	0,18	
140	197,9	2	2	0,18	

RPM	4-8 bar				Kw
	Lt/h	BAR			
		std	max		
14	19,1	4	8	0,18	
20	27,4	4	8	0,18	
23	31,6	4	8	0,18	
30	41,3	4	8	0,18	
40	55,2	4	8	0,18	
50	69,0	4	8	0,18	
70	96,8	4	8	0,18	
100	138,4	4	8	0,18	

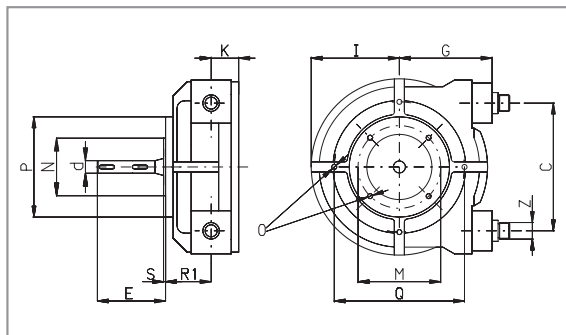
variable gear speed 0-4 bar							Kw
RPM		Lt/h		BAR			
max	min	max	min	std	max		
9	1,9	12	1	2	4	0,18	
13	2,7	18	3	2	4	0,18	
15	3,2	21	3	2	4	0,18	
20	4,1	28	5	2	4	0,18	
26	5,4	36	6	2	4	0,18	
33	6,8	46	8	2	4	0,18	
46	9,5	65	12	2	4	0,18	
65	13,6	92	18	2	4	0,18	
91	19	129	26	2	2	0,18	
130	27,1	184	37	2	2	0,18	

variable gear speed 4-8 bar							Kw
RPM		Lt/h		BAR			
max	min	max	min	std	max		
9	1,9	12	0	4	8	0,18	
13	2,7	18	1	4	8	0,18	
15	3,2	20	2	4	8	0,18	
20	4,1	27	3	4	8	0,18	
26	5,4	36	5	4	8	0,18	
33	6,8	45	7	4	8	0,18	
46	9,5	63	11	4	8	0,18	
65	13,6	90	16	4	8	0,18	



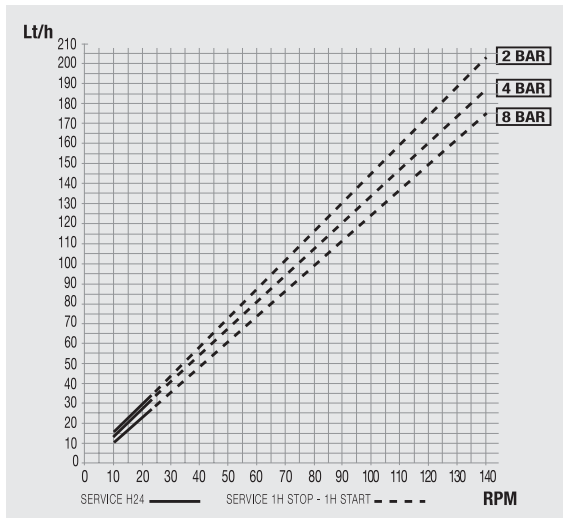
DIMENSIONS

MOD.	Ø mm	Z UNI338	LT/RPM	MAX BAR	A mm	B	C	D	F	G	H	L
PSF3	10	3/8" BSP	0.024	8	210	160	112	94	237	110	238	214

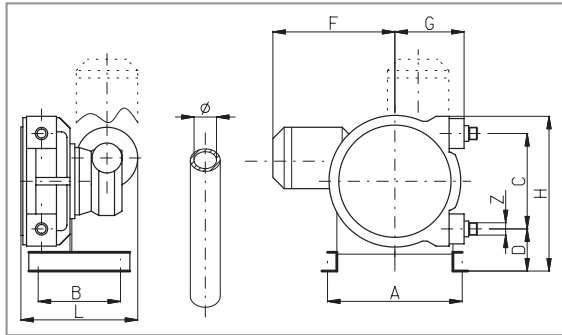


DIMENSIONS

MOD.	Z UNI 338	E	d j6	M	N f7	P	O	I	R1	Q	S	K
PSF3	3/8" BSP	86	18	87	60	108	M8	88	67	160	4	31

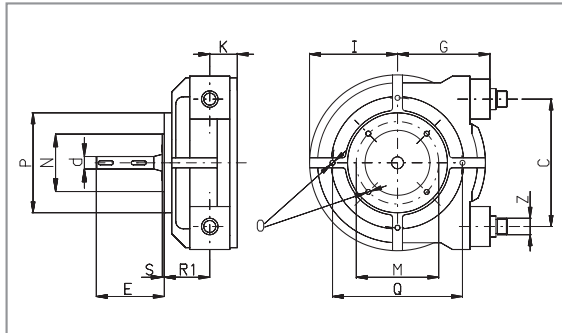


# PSF3-S



DIMENSIONS

MOD.	Ø mm	Z UNI338	LT/RPM	MAX BAR	A mm	B	C	D	F	G	H	L
PSF3S	5	3/8" BSP	0.006	12	210	160	112	94	237	110	238	214



DIMENSIONS

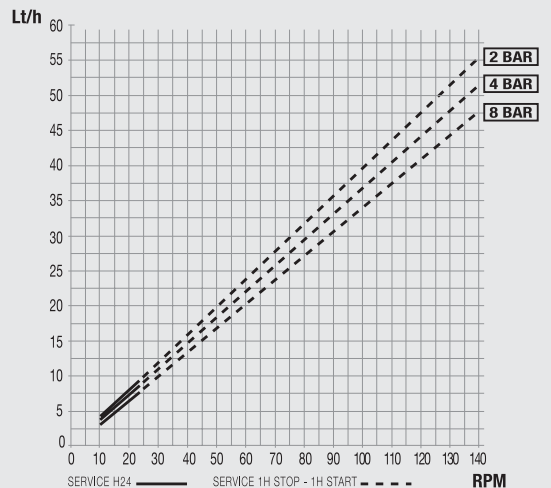
MOD.	Z UNI 338	E	d j6	M	N 17	P	O	I	R1	Q	S	K
PSF3S	3/8" BSP	86	18	87	60	108	M8	88	67	160	4	31

RPM	Lt/h	0-6 bar		Kw
		BAR		
		std	max	
14	5,3	2	6	0,18
20	7,6	2	6	0,18
23	8,8	2	6	0,18
30	11,5	2	6	0,18
40	15,3	2	6	0,18
50	19,2	2	6	0,18
70	26,9	2	6	0,18
100	38,4	2	6	0,18
140	53,8	2	2	0,18

RPM	Lt/h	6-12 bar		Kw
		BAR		
		std	max	
14	4,9	6	12	0,18
20	7,0	6	12	0,18
23	8,1	6	12	0,18
30	10,7	6	12	0,18
40	14,3	6	12	0,18
50	17,9	6	12	0,18
70	25,2	6	12	0,18
100	36,1	6	12	0,18

variable gear speed 0-6 bar						
RPM		Lt/h		BAR		Kw
max	min	max	min	std	max	
9	1,9	3,4	0,2	2	6	0,18
13	2,7	5,0	0,5	2	6	0,18
15	3,2	5,7	0,7	2	6	0,18
20	4,1	7,6	1,1	2	6	0,18
26	5,4	10,0	1,6	2	6	0,18
33	6,8	12,6	2,1	2	6	0,18
46	9,5	17,6	3,1	2	6	0,18
65	13,6	25,0	4,6	2	6	0,18
91	19	35,0	7,3	2	2	0,18
130	27,1	50,0	10,4	2	2	0,18

variable gear speed 6-12 bar						
RPM		Lt/h		BAR		Kw
max	min	max	min	std	max	
9	5	3,1	0,2	6	12	0,18
13	5	4,5	0,2	6	12	0,18
15	5	5,2	0,2	6	12	0,18
20	5	7,0	0,2	6	12	0,18
26	5,4	9,2	0,3	6	12	0,18
33	6,8	11,8	0,7	6	12	0,18
46	9,5	16,5	1,5	6	12	0,18
65	13,6	23,4	2,7	6	12	0,18





The logo consists of the word "BEDU" in a large, bold, white sans-serif font, with "POMPEN" in a smaller, white sans-serif font below it. The text is centered within a dark teal square, which is itself centered within a white square border.

**BEDU**  
POMPEN

## made for your process

- Expert advice
- A customer-oriented organization that adapts to the requirements and wishes of your organization
- Innovative and customized solutions
- Breakdownservice, 24 hours a day, 7 days a week
- Technical service with extensive test facilities, working from our own workplace or at your location
- A fast and appropriate solution for all your issues
- Wide range of liquid pumps
- Repair, maintenance and revision

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