

POSITIVE-DISPLACEMENT SCREW PUMPS

The screw pump is a positive displacement, self-priming pump with one single rotating shaft. The steel rotor and rubber stator are the main pumping components.

The rotor is a circular section single or double-threaded screw with short or long pitch. The rubber stator is vulcanized inside a steel pipe. Its hollow core is screw shaped like the rotor but with pitch double the size of the rotor.

The rotor turns inside the stator and is forced to accomplish a hypocycloidal movement during which the recesses between the rotor and the stator accomplish an helicoidal movement, conveying the fluid from the inlet towards the delivery section.

STANDARD GEOMETRY CHARACTERISTICS

- uniform and delicate flow
- wide section allowing solid suspensions to flow freely
- low flowing rate and excellent NPSH
- compact size with respect to the maximum allowable pressure and to the number of stages
- suitable for high and very viscosity
- suitable for compact and pasty products

LONG PITCH GEOMETRY CHARACTERISTICS

- high volumetric efficiency
- extremely delicate flow without pulses
- nearly double delivery at the same operating speed compared to the standard design
- reduced wear of the parts thanks to the low contact speed between rotor and stator
- suitable for medium-low viscosity and abrasive products
- compact size with relation to the maximum delivery
- minimum axial thrusts on transmission and bearings

2/3 THREAD GEOMETRY CHARACTERISTICS

- high volumetric efficiency
- good dosing precision
- delivery approximately equal to 1,5 times the standard geometry at the same operating speed
- suitable for medium-low viscosity products and without solid materials in suspension
- extremely compact size with relation to the maximum delivery



VARIOUS EXECUTIONS



SERIES MA FOODSTUFFS EXECUTION

Pumps for foodstuffs with large suction chamber, free from product stagnation zones.

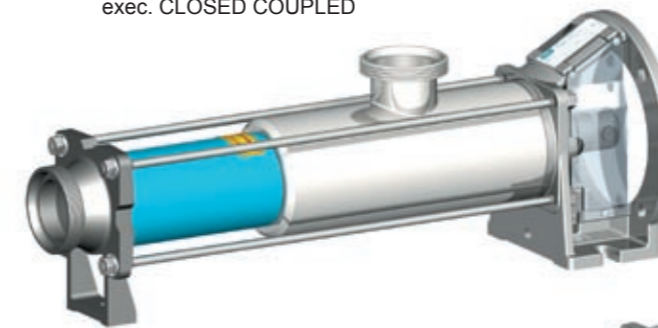
All parts in contact with the product are in polished / glazed stainless steel. The inlet and outlet fittings are threaded according to DIN 11851 standards and on request in the SMS, CLAMP, RJT-BS and IDF, OENOLOGICAL versions. The rubber stator is directly vulcanised in a steel tube.

The special telescopic assembly means that the whole pump can be disassembled without having to remove its drive, thus amazingly facilitating the inspection of all parts for cleaning and maintenance purposes.

The MAE series, with pump directly coupled to the drive, allows to minimise the overall dimensions and costs, yet leaving the pumping part with the same characteristics and disassembly facility as the MAN series.

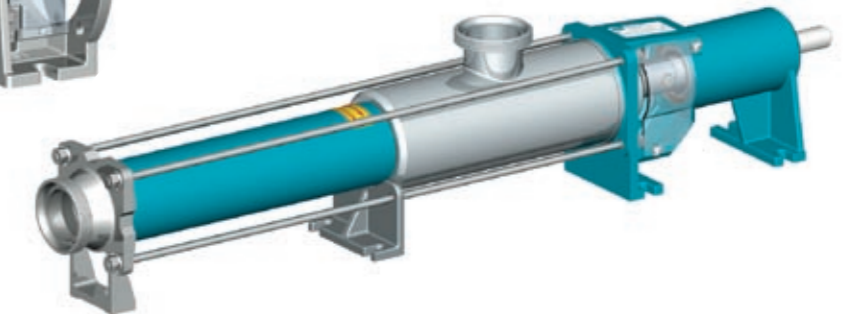
MAE

exec. CLOSED COUPLED



MAN

exec. WITH BASE AND FLEXIBLE JOINT



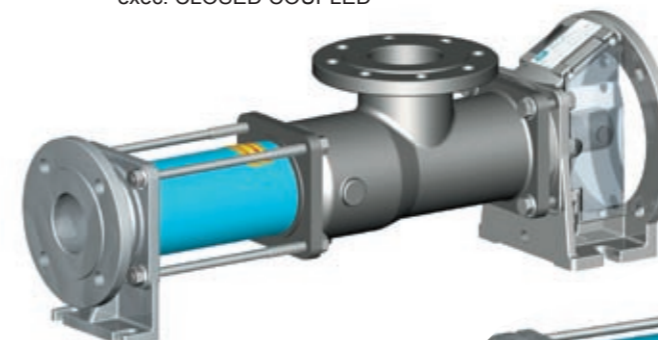
SERIES MI INDUSTRIAL EXECUTION

Industrial sturdy pumps suitable for heavy duty requirements. Fully made in stainless steel or cast iron with steel axel shaft. The inlets and outlets are flanged according to UNI 2223 PN16 standard. The rubber stator is directly vulcanised in a steel tube.

The MIE series, with pump directly coupled to the drive, allows to minimise the overall dimensions and costs, yet leaving the pumping part with the same characteristics and disassembly facility as the MIN series.

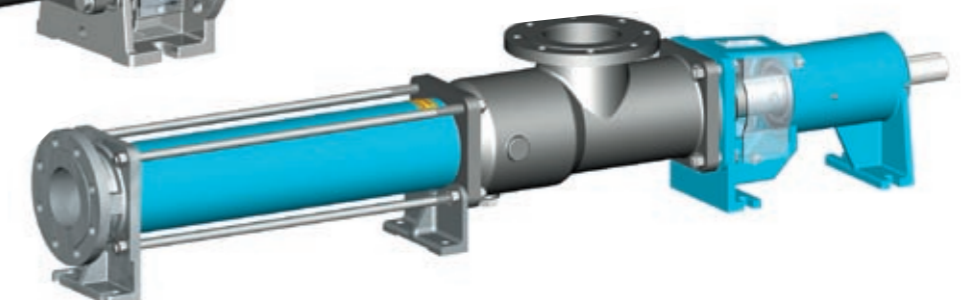
MIE

exec. CLOSED COUPLED



MIN

exec. WITH BASE AND FLEXIBLE JOINT



VARIOUS EXECUTIONS



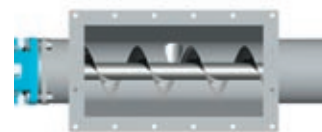
SERIES MC EXECUTION WITH HOPPER AND PRE-FEEDING SCREW

Version with hopper equipped with pre-feeding screw suitable for viscous products that do not flow easily inside the pipes. The top part is equipped with a rectangular flange to which any type of conveyance system can be connected.

The outlet can be with DIN 11851 fitting or with UNI 2223 PN16 flange. It can be manufactured on request in the SMS, CLAMP, RJT-BS, IDF and OENOLOGICAL versions.

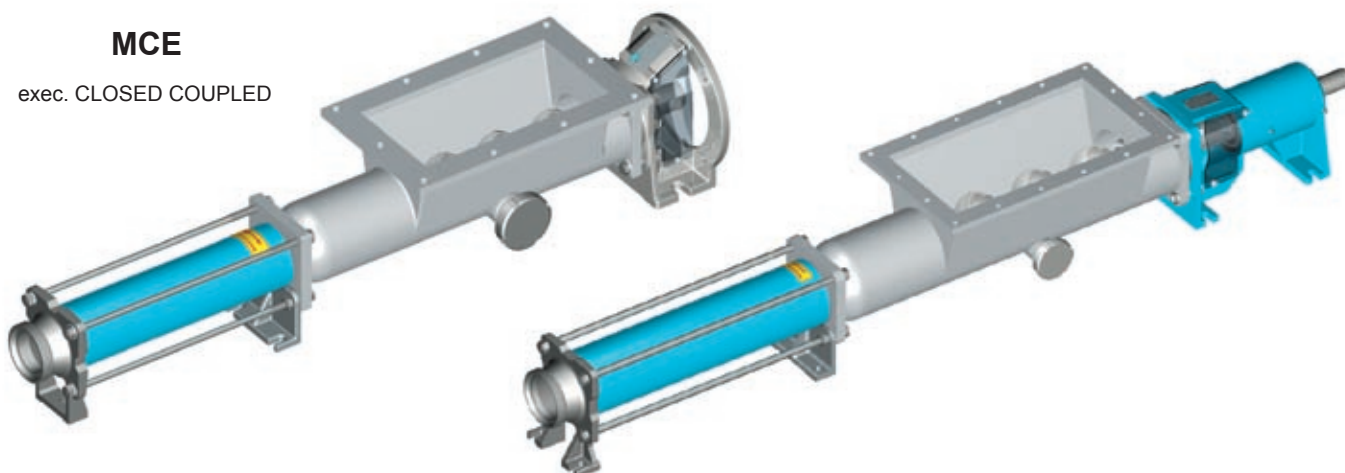
The MCE series, with pump directly coupled to the drive, allows to minimise the overall dimensions and costs, yet leaving the pumping part with the same characteristics and disassembly facility as the MCN series.

A lid with fitting means that the pump can be used for the typical applications of the MA series.



MCE

exec. CLOSED COUPLED



MCN

exec. WITH BASE AND FLEXIBLE JOINT

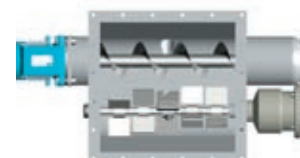
SERIES MCR EXECUTION WITH HOPPER, PRE-FEEDING SCREW AND VANE CRUSHER

Version with hopper equipped with pre-feeding screw and vane crusher, suitable for dense products in blocks, pieces or that tend to form a bridge on the screw.

The vane crusher driven by an independent speed gear motor, crushes the product to be pumped, breaking down any blocks that have built up and pushes it against the pre-feeding screw.

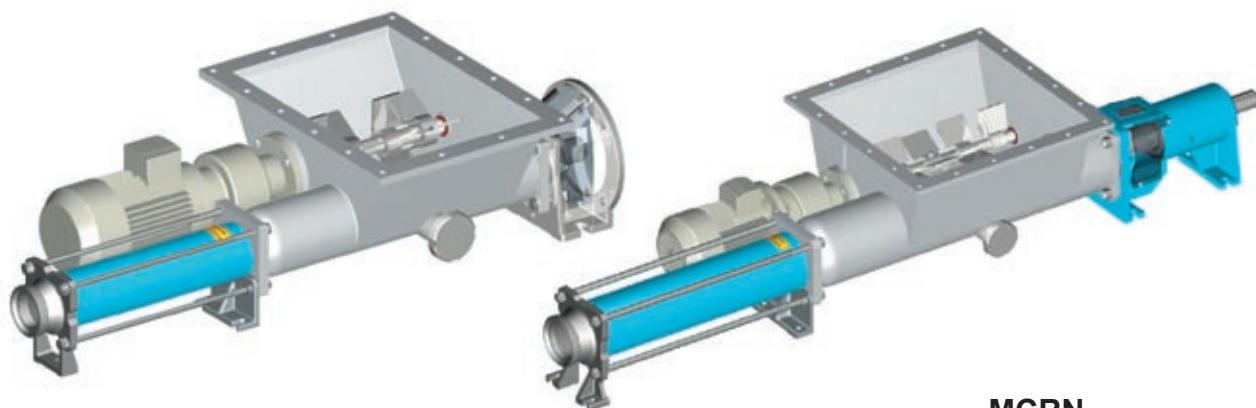
The outlet may be equipped with DIN 11851 fitting or UNI 2223 PN16 flange. It can be manufactured in the SMS, CLAMP, RJT-BS, IDF and OENOLOGICAL versions.

As for the MC series, it can be in the E or N version and it can be supplied, on request, with a lid.



MCRE

exec. CLOSED COUPLED



MCRN

exec. WITH BASE AND FLEXIBLE JOINT

VARIOUS EXECUTIONS



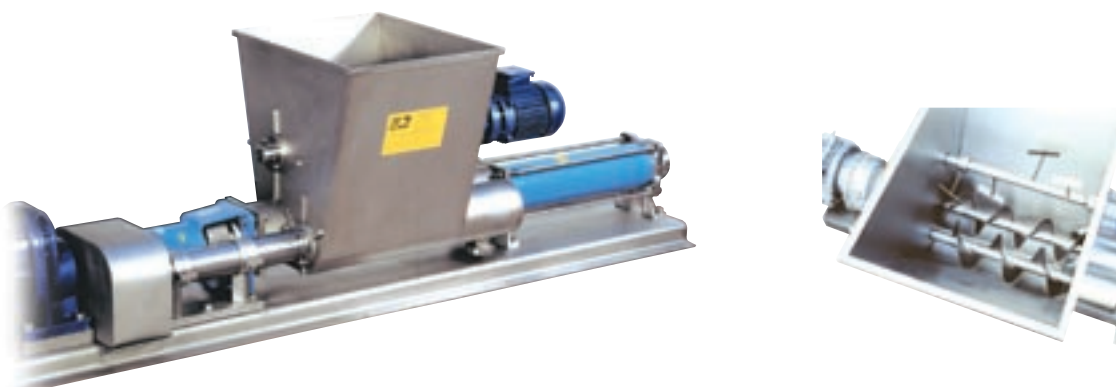
SERIES **MC2R** EXECUTION WITH HOPPER, PRE-FEEDING SCREW E 2 BLADE FEEDERS

Version with hopper equipped with pre-feeding screw and 2 blade feeders.
The two feeders press the product against the pre-feeding screw to prevent the product from forming a bridge on the actual screw and thus clogging up feeding when the product is considerably viscous.
The surface of the blades allows to cover completely the entrance of the hopper avoiding the formation of stagnation areas.
The feeders are driven by an independent electric motor with reduction unit or variable speed motor.
The outlet can be equipped with DIN 11851 fitting or UNI 2223 PN16 flange. It can be manufactured in the SMS, CLAMP, RJT-BS and IDF versions.
Ideal for particularly viscous products for which a pressure is required to feed the pump screw:



SERIES **MC2C** EXECUTION WITH HOPPER, 2 PRE-FEEDING SCREWS AND 1 BLADE FEEDER

Version with hopper and double synchronised pre-feeding screw, with vane crusher operated by a reduction unit.
The two pre-feeding screws pull the product to feed the pump stator.
The vane crusher blades push the product towards the bottom of the hopper thus feeding the two pre-feeding screws and preventing product stagnation. They are ideal for very viscous products that do not flow easily, such as dough, minced products and products in blocks.
It can be manufactured as a single screw pump that feeds directly or as a simple feeder in combination with a lobe pump.
The outlet can be equipped with DIN 11851 fitting or UNI 2223 PN16 flange. It can be manufactured in the SMS, CLAMP, RJT-BS and IDF versions.
Suitable for products in blocks for which a crushing is required to feed the pump screw:



BOTTLING - REFRIGERATION - MUSTS AND WINES



CHARACTERISTICS

The positive displacement screw pumps, exploited in the wine making sector, have the remarkable advantage that they are self-priming and do not require inlet or outlet valves for the product pumped. They can also be totally reversed, by inverting the rotation direction. The product is pumped delicately, constantly and smoothly, which is a crucial feature to ensure correct filtering or refrigeration. The pumps can be driven by gear motors or with variable speed motors with variable flow rates.

If used correctly the pumps require no maintenance for years, if not the replacement of the rubber stator when it is worn to such an extent to compromise the hydraulic characteristics of the pump. These pumps are manufactured in sturdy stainless steel with stator in elastomer for foodstuff (Perbunan) of sure reliability and are produced in a wide range to meet all sector requirements.



- Conveyance of wine and liquids in general
- Filtration
- Feeding of extractors and decanters
- Refrigeration
- Musts and concentrates

The new feeding system achieved consists of a screw pump couplet with a speed gear motor, control panel, frequency transformer, microprocessor, duly transformed signal detector, enabling the acceleration or deceleration of the pump's rpm according to the specific application. The various instruments foreseen mean that they pumps can be used with a number of machines:

- ISOBARIC FILLING MACHINES
- FALL TYPE FILLING MACHINES
- REFRIGERATORS

Pressure transducer and digital regulator.



Heat probe and digital heat regulator.



Potentiometer and digital Voltmeter

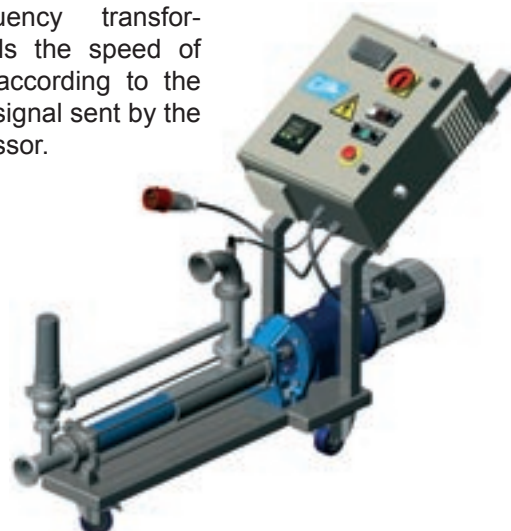


The product is fed delicately without sudden starts and stops but with pre-established accelerations and decelerations, avoiding hammering and sudden pressure variations. The microprocessor means that the signal sent by the detectors can be received and modified, according to the parameters set by the operator.

The frequency transformer controls the speed of the pump according to the modulated signal sent by the microprocessor.

BARRIQUE EMPTYING SCREW PUMP

This is a handy and reliable pump for barrique emptying, equipped with electrical control panel, level probe and DN 40 STAINLESS STEEL gate, control push button on gate to start emptying and automatic stoppage when the container is empty.



MAE for filling machines with by-pass, flowmeter and panel with microprocessor

PERFORMANCES



1 stage - max. 6 bar

2 stages - max.12 bar

1 stage "S" - max. 10 bar

2 stages "S" - max. 22 bar

h = Head, bar Q = Flow rate, m³/h Na = Power, HP n = rpm

Values referred to water at 20°C a.s.l.

Size	Stages	Version N	Version E	h	n=200		n=300		n=400		n=500		n=600		n=700		n=800		n=900		n=1000		n=1400			
					Q	Na	Q	Na	Q	Na	Q	Na	Q	Na	Q	Na	Q	Na	Q	Na	Q	Na	Q	Na	Q	Na
25	1	--	MAE	1					0,3	0,23	0,38	0,24	0,45	0,25	0,52	0,26	0,6	0,27	0,68	0,28	0,75	0,3	1,05	0,35		
				2					0,3	0,26	0,38	0,27	0,45	0,28	0,52	0,3	0,6	0,31	0,68	0,33	0,75	0,34	1,05	0,39		
	4					0,25	0,28	0,33	0,3	0,4	0,32	0,46	0,33	0,54	0,35	0,52	0,37	0,68	0,39	0,96	0,45					
	2	--	MAE	6						0,38	0,35	0,45	0,38	0,52	0,40	0,6	0,43	0,66	0,46	0,75	0,49	1,05	0,58			
10								0,35	0,45	0,42	0,5	0,5	0,53	0,56	0,64	0,60	0,71	0,64	1	0,78						
40	1	MAN MCN	MAE MCE	1					0,6	0,35	0,8	0,35	1	0,35	1,2	0,4	1,4	0,45	1,6	0,5	1,8	0,55	2,6	0,8		
				3					0,3	0,35	0,5	0,35	0,7	0,4	0,9	0,45	1,1	0,5	1,3	0,55	1,5	0,6	2,3	0,85		
	6										0,2	0,45	0,4	0,5	0,6	0,55	0,8	0,6	1	0,65	1,8	0,9				
	2	MAN MCN	MAE MCE	9							0,3	0,6	0,5	0,7	0,7	0,8	0,9	0,9	1,1	1	1,3	1,1				
12											0,3	0,9	0,5	1	0,7	1,1	0,9	1,3	1,1	1,4						
50	1	MAN - MIN MCN - MCRN MC2RN	MAE - MIE MCE - MCRE	1	0,9	0,6	1,5	0,6	2	0,6	2,6	0,7	3,2	1	3,8	1,2	4,3	1,2	4,8	1,4	5,4	1,6	7,8	2,1		
				3	0,8	0,8	1,3	0,9	1,8	1	2,4	0,9	3	1,2	3,5	1,3	4,1	1,4	4,6	1,6	5,2	1,8				
	6	0,6	0,9	1,1	1,1	1,6	1,1	2,2	1,2	2,8	1,5	3,3	1,6	3,9	1,7	4,4	2	4,9	2,3							
	2	MAN - MIN MCN - MCRN MC2RN	MAE - MIE MCE - MCRE	9	0,2	1,1	0,9	1,2	1,6	1,6	2,1	2	2,8	2,4	3,5	2,7	4,2	2,8	4,9	3,1						
12	-			-	0,4	1,3	1,2	1,8	1,4	2,2	2	2,6	2,8	2,8	3,3	3,1	4	3,7								
55	4	MAN - MIN MCN - MCRN MC2RN	MAE - MIE MCE - MCRE	8	1	1,5	1,6	1,7	2,2	2	2,8	2,5	3,4	3												
				16	0,7	1,8	1,3	2,3	1,8	2,8	2,4	3,4	3	4,2												
				24	0,4	2,2	0,8	3	1,3	3,6	1,9	4,4	2,4	5,2												
60	L	MAN - MIN MCN - MCRN MC2RN	MAE - MIE MCE - MCRE	2	2,5	1,2	3,7	1,3	5	1,4	6,2	1,6	7,5	1,8	8,7	2	10	2,2	11,2	2,5	12,5	2,7				
				4	2,3	1,5	3,5	1,7	4,7	1,8	5,8	2	7	2,3	8,2	2,6	9,4	2,8	10,6	3,2	11,7	3,5				
				6	2	1,7	3,1	1,9	4,2	2,1	5,2	2,4	6,4	2,6	7,4	3	8,5	3,4	8,6	3,8	10,7	4,1				
65	1	MAN - MIN MCN - MCRN MC2RN	MAE - MIE MCE - MCRE	1	2,5	1,1	3,6	1,1	5	1,4	6,4	1,5	7,6	1,7	8,7	2	9,7	2,3	11,3	2,6						
				3	2,3	1,2	3,6	1,2	4,5	1,6	5,9	1,9	7,3	2,2	8,4	2,4	9,4	2,5	10,8	3,2						
	6	1,7	1,5	2,8	1,7	4	2,1	5	2,6	6,5	2,8	7,5	3,2	8,5	3,4											
	2	MAN - MIN - MCN MCRN - MC2RN	MAE - MIE MCE - MCRE	9	1	2,8	2,6	3,3	4,1	3,7	5,7	4,2	7,3	4,9	8,8	6										
	12			0,3	3	1,6	3,4	3,6	3,9	5,5	4,6	7	5,7													
	2S	MAN - MIN MCN - MCRN MC2RN	MAE - MIE MCE - MCRE	14	2	3	3,3	3,7	4,8	5	6,2	6,4														
17	1,7			3,3	3	4,1	4,5	5,5																		
20	1,3	3,6	2,6	4,6	4,1	6,1																				
70	L	MAN - MIN MCN - MCRN MC2RN	MAE - MIE MCE - MCRE	2	5,4	2	8	2,3	10,6	2,8	13,1	3,3	15,9	3,9	18	4,5										
				4	5	2,3	7,6	3	10,3	3,7	12,8	4,4	15,5	5,4												
				6	4,6	2,8	7,2	3,7	9,8	4,6	12,1	5,8														
80	1	MAN - MIN MCN - MCRN MC2RN	MAE - MIE MCE - MCRE	1	4,7	2,2	7,5	2,5	10,1	2,9	12,7	3,2	15,5	3,5	18	3,7										
				3	4,4	2,5	7	3	9,6	3,3	12,1	3,8	14,8	4,5	17,4	5,2										
	6	3,8	2,9	6,4	3,5	8,9	4,3	10,9	5	13,4	6,2															
	2	MAN - MIN - MCN MCRN - MC2RN	MAE - MIE MCE - MCRE	9	3,2	2,9	5,5	3,5	8	4,5	11	6	14	7,2												
	12			2,4	3,2	4,4	3,9	7,3	5,3	10	7,5															
	2S	MAN - MIN MCN - MCRN MC2RN	MAE - MIE MCE - MCRE	14	3,8	7,8	6,8	9,2	9,8	11	12,8	13,2														
	17			2,9	8,2	5,8	9,8	9	11,9																	
	20	0,7	9	3,5	11	6,5	14																			
4	MAN - MIN MCN - MCRN MC2RN	--	8	5,5	2,5	8,1	3,3	11,5	4,5	14	5,5															
16			4	4,1	7,2	6,1	10,5	8,3	13,2	11																
24	2,5	5,3	6	8,7	9,5	11,9	12,5	14,9																		
90	L	MAN - MIN MCN - MCRN MC2RN	MAE - MIE MCE - MCRE	2	13,4	3,5	20,5	4,1	26,6	5	34	6,1	41	7,4	48	8,8										
				4	12,2	4,1	19	5,3	25,5	6,7	32,5	8,4	39,5	11												
				6	10,8	5,2	17,2	6,5	24	8	30,8	10,8	37,8	14,3												
100	1	MAN - MIN MCN - MCRN MC2RN	MAE - MIE MCE - MCRE	1	9,5	3,2	14,5	3,4	19,5	3,8	25	4,4	30	5												
				3	7,8	3,7	12,8	4,1	17,7	5	22,5	6,2	28	7,2												
	6	6	4,2	10,5	5,8	15	7,5	19,5	9,2																	
	2	MAN - MIN - MCN MCRN - MC2RN	MAE - MIE MCE - MCRE	9	5,5	6	10,8	8,1	15,5	12	20	14,8														
	12			4	7,3	7	10	12	14,5	16,2	17															
	2S	MAN - MIN MCN - MCRN MC2RN	MAE - MIE MCE - MCRE	14	6	14	11,2	16	16,4	18																
	17			5	15,2	10,2	17,3																			
	20	2,5	16	7,5	19,5																					
4	MAN - MIN MCN - MCRN MC2RN	--	8	10	6	15	7	20	12																	
16			8,5	10	13,5	14	19	19																		
24	6	13	11	18,5																						

PERFORMANCES



4 stages - max. 24 bar

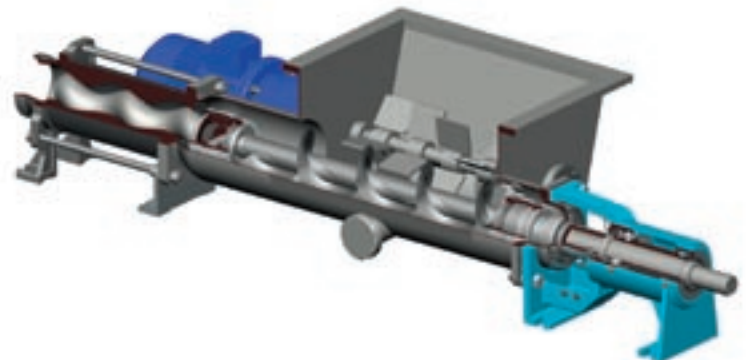


long pitch - max. 6 bar

h = Head, bar Q = Flow rate, m³/h Na = Power, HP n = rpm

Values referred to water at 20°C a.s.l.

Size	Stages	Version N	Version E	h	n=200		n=300		n=400		n=500		n=600		n=700		n=800		n=900		n=1000		n=1400			
					Q	Na	Q	Na	Q	Na	Q	Na	Q	Na	Q	Na	Q	Na	Q	Na	Q	Na	Q	Na	Q	Na
					110	L	MAN - MIN MCN - MCRN MC2RN	MAE - MIE MCE - MCRE	2	22	4	35	5	45	6	57	8,5									
				4	20,5	5,5	31	8	42	11	53,5	13														
				6	19	7,5	29,5	11	40,5	14	51,5	18														
115	1	MAN - MIN MCN - MCRN	MAE - MIE MCE - MCRE	1	12	5	21	5,5	29	6	36	7														
				3	11	5,5	20	6,5	27	7,5	34	9														
				6	9	6	16	8	23	10	30	12														
125	2	MAN - MIN MCN - MCRN	MAE - MIE MCE - MCRE	4	14	7	22	8	29	9,5																
				8	13	8	20,5	10	27,5	13																
				12	12	10	19	13	26	16																
125	1	MAN - MIN MCN - MCRN MC2RN	MAE - MIE MCE - MCRE	1	18,5	4,5	30	5,5	42	7,5	53	9,5														
				3	14	5,5	25,5	8,0	38	10,5																
				6	9	6,5	20	11,3																		
	2	MAN - MIN - MCN MCRN - MC2RN	MAE - MIE MCE - MCRE	9	11	14,5	23	18,3	34,4	24																
				12	8	16,5	19	22	30	30																
	2S	MAN - MIN MCN - MCRN MC2RN	MAE - MIE MCE - MCRE	14	9,6	24	21	36	31	47																
				17	7,4	32	18	44																		
4	MAN - MIN MCN - MCRN	--	--	8	22	14	33	20	44	23																
				16	20	20	31	29,5	41,5	39																
				24	18	28	27,5	42																		
130	L	MAN - MIN MCN - MCRN MC2RN	MAE - MIE MCE - MCRE	2	29	6,1	44	8	59	10	74	12														
				4	26,8	8	42	11,9	57	15	72,5	19														
				6	23	10	38,4	15	54	20	69	25														
150	1	MIN - MCN MCRN	MIE - MCE MCRE	2	44	8	67	12	90	16	113	20														
				4	32	12	56	17	78	23	101	29														
				6	16	14,5	40	22	62	30	85	37														
	1S	MIN - MCN MCRN	MIE - MCE MCRE	1	44	10	70	12	93	16	115	21														
				4	40	12	62	18	85	26	105	38														
				8	31	20	52	30	72	42																
				10	20	24	40	38																		
2	MIN - MCN MCRN	MIE - MCE MCRE	4	44	8,8	67	14	92	19																	
			6	40,5	14,5	64	23	87	30,5																	
			12	32	23	55	35	79,5	48																	
160	L	MIN - MCN MCRN	MIE - MCE	2	86	10	132	16																		
				4	80	17	123	28																		
				6	75	24	115	42																		



PERFORMANCES DOUBLE-THREAD VERSIONS



The new series of screw pumps offered together with the existent series is a logical evolution that derives from research made to optimise performance.

New shapes, additionally even structures, reduction of friction and greater volumes all enable improved performance.

They fit in with the existent series without dimensional modifications and are perfectly interchangeable.

This version of CSF screw pumps can be offered with a wide performance range to better meet all requirements.

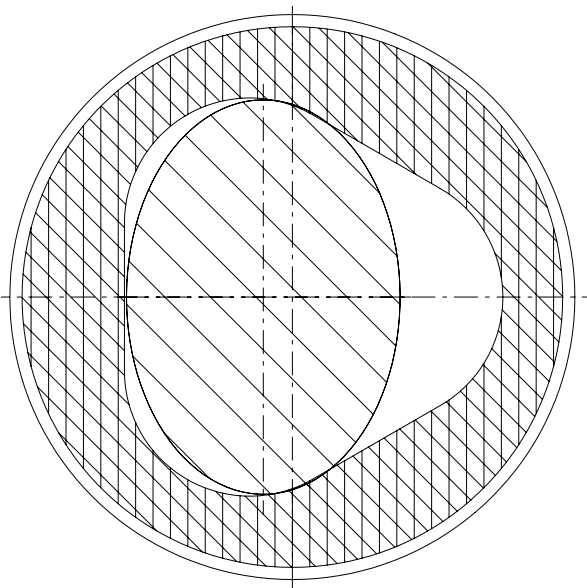
In the new series the pump dimensions, assembly, drive, versions, constructional materials remain unaltered.

The following benefits are obtained:

- Greater mass = volume pumped
- Less eccentricity
- Less rotor mass
- Improved overall performance
- Lower internal speed, therefore improved flow rate
- Greater transversal pumping
- Even thickness of the elastomer wall, therefore less driving torque and therefore less absorbed power



New shape of the rotor/stator
Greater volumetric mass = volume pumped
Improved performance
Improved NPSH values



h = Head, bar Q = Flow rate, m³/h Na = Power, HP n = rpm

Values referred to water at 20°C a.s.l.

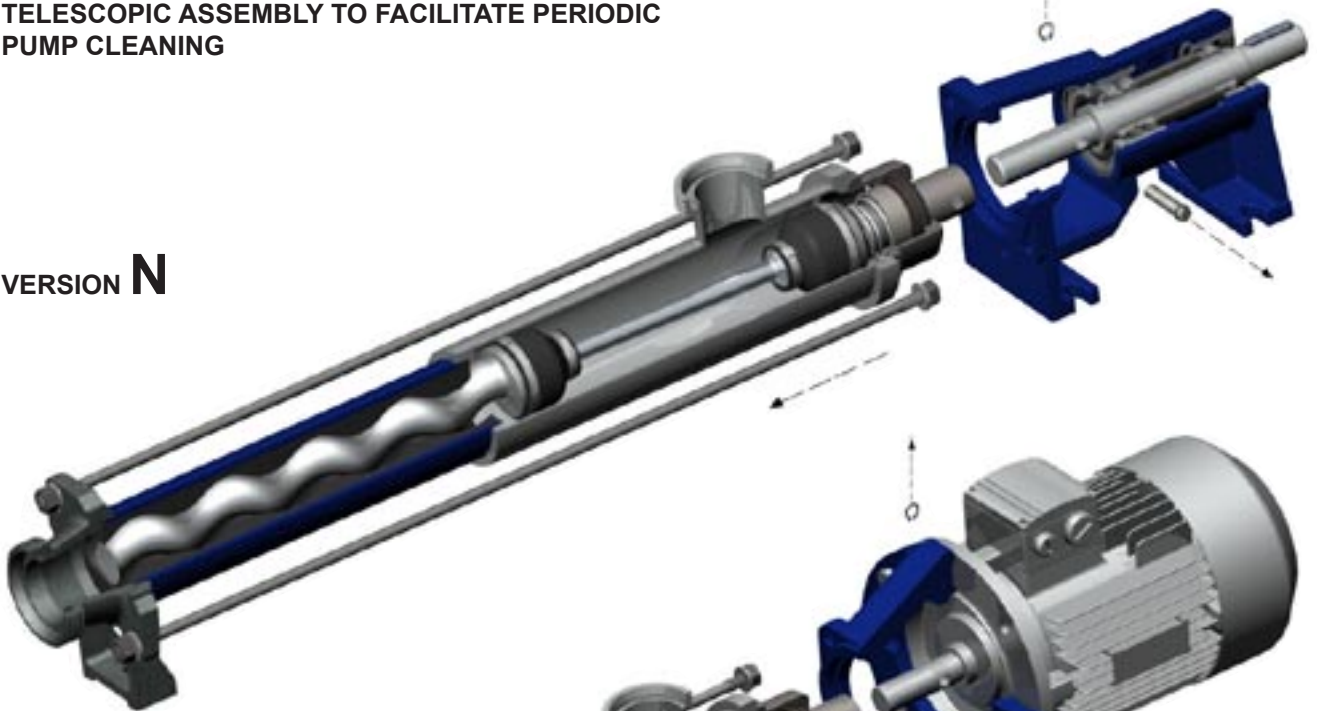
Size	Stages	Version N	Version E	h	n=200		n=300		n=400		n=500		n=600		n=700		n=800		n=900		n=1000		n=1400			
					Q	Na	Q	Na	Q	Na	Q	Na	Q	Na	Q	Na	Q	Na	Q	Na	Q	Na	Q	Na	Q	Na
					63	1	MAN - MIN MCN - MCRN MC2RN	MAE - MIE MCE - MCRE	1	3,7	1,1	5,6	1,2	7,4	1,3	9,2	1,4	11,1	1,5	12,9	1,8	14,7	2,1			
				2	3,6	1,2	5,4	1,4	7,2	1,5	8,9	1,8	10,7	2,1	12,5	2,6	14,2	3								
				4	3,3	1,7	5	1,8	6,6	2,2	8,3	2,7	10	3,5	11,7	4,4	13,4	5,4								
83	1	MAN - MIN MCN - MCRN MC2RN	MAE - MIE MCE - MCRE	1	6,5	1,8	10,1	2,1	11,8	2,3	17,5	3,4														
				2	6,4	2	9,8	2,6	11,7	3	16,8	4,2														
				4	6	2,3	9,4	3,2	13	4,4	16,4	6,5														
				6	5,6	2,6	9	4	12,6	5,6	15,9	7,6														
103	1	MAN - MIN MCN - MCRN MC2RN	MAE - MIE MCE - MCRE	1	14	2,8	21,1	3,5	28,5	4,6	35,4	6														
				2	12,6	3,6	19,9	4,2	26,9	5,6	33,9	7,3														
				4	11	4,5	18,2	5,5	25,4	7,2	32,5	9,5														

JOINT VERSIONS

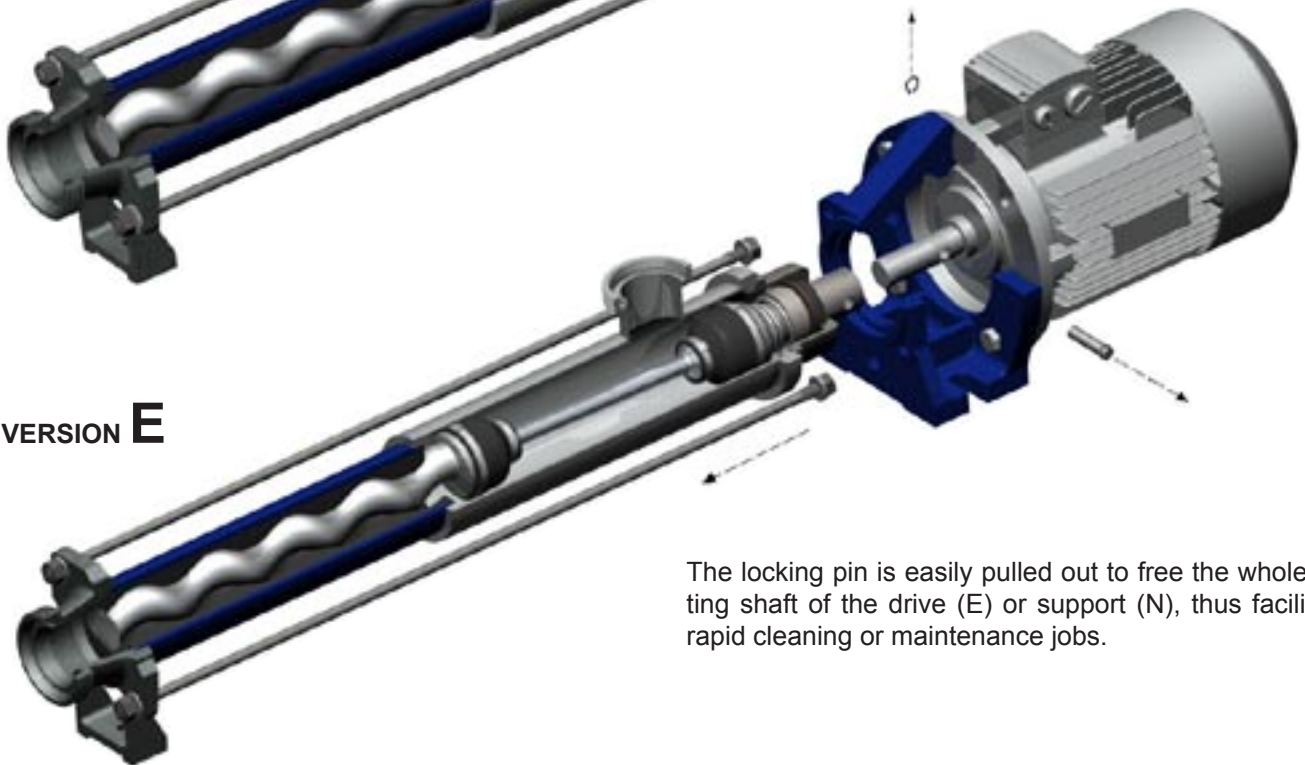


TELESCOPIC ASSEMBLY TO FACILITATE PERIODIC PUMP CLEANING

VERSION **N**



VERSION **E**



The locking pin is easily pulled out to free the whole rotating shaft of the drive (E) or support (N), thus facilitating rapid cleaning or maintenance jobs.

JOINTED JOINTS

In wear-resisting version with hardened bushes for heavy duty conditions and loads and safety sleeves.



Execution from pump's size M 65 to M 160



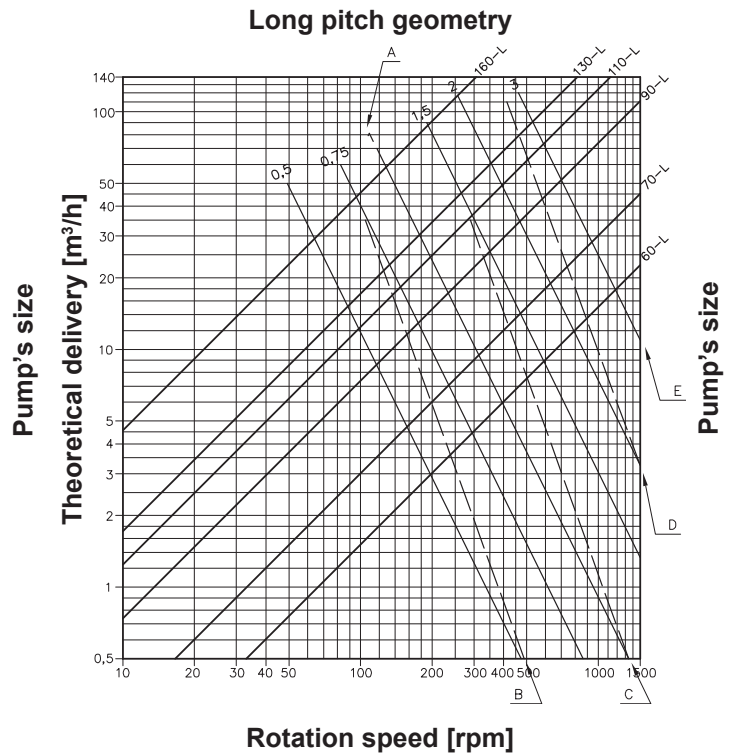
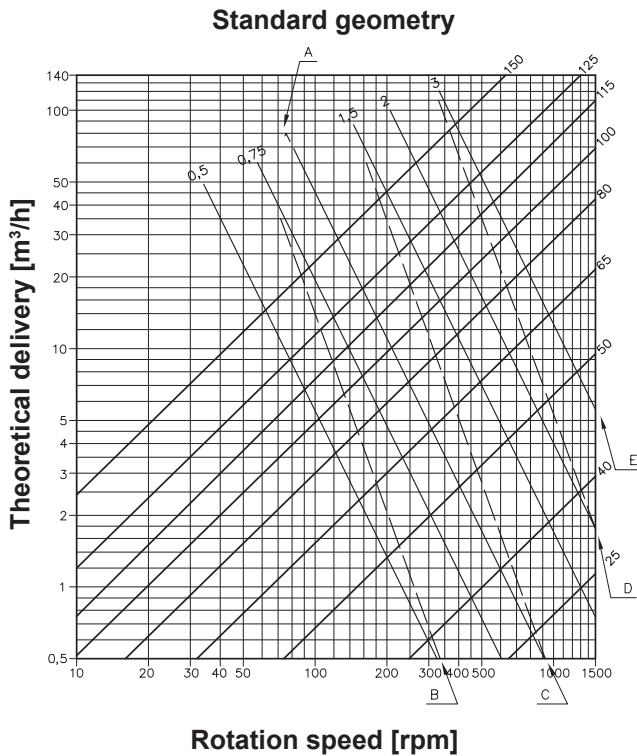
In sturdy stainless steel with OR seals or safety sleeves.



PUMP SIZING



DIAGRAM FOR THE CHOICE OF SCREW PUMPS



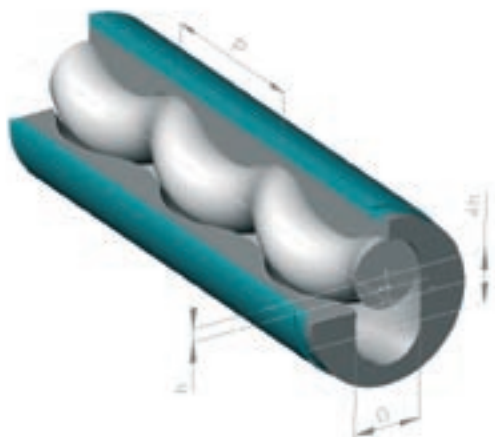
A = Rotor/stator drive speed
in m/sec

B = Very abrasive _____
Very viscous - - - -

C = Averagely abrasive _____
Averagely viscous - - - -

D = Not very abrasive _____
Not very viscous - - - -

E = Not abrasive



ABSORBED POWER CALCULATION

$$NA = \frac{Q \cdot H \cdot \gamma}{4500 \cdot \eta}$$

Q = Flow rate in l/min.

Na = Absorbed power in Hp.

H = Total head in meters of liquid column

γ = Specific weight of the liquid in kg/dm³.

η = Total efficiency (volumetric efficiency multiplied by mechanical efficiency)

THEORETICAL DELIVERY CALCULATION

The output of the CSF screw volumetric pumps is directly proportional to the rpm:

$$Q = D \cdot 4h \cdot 2P \cdot N$$

Q = Flow rate in l/min.

h = Eccentricity of rotor in dm.

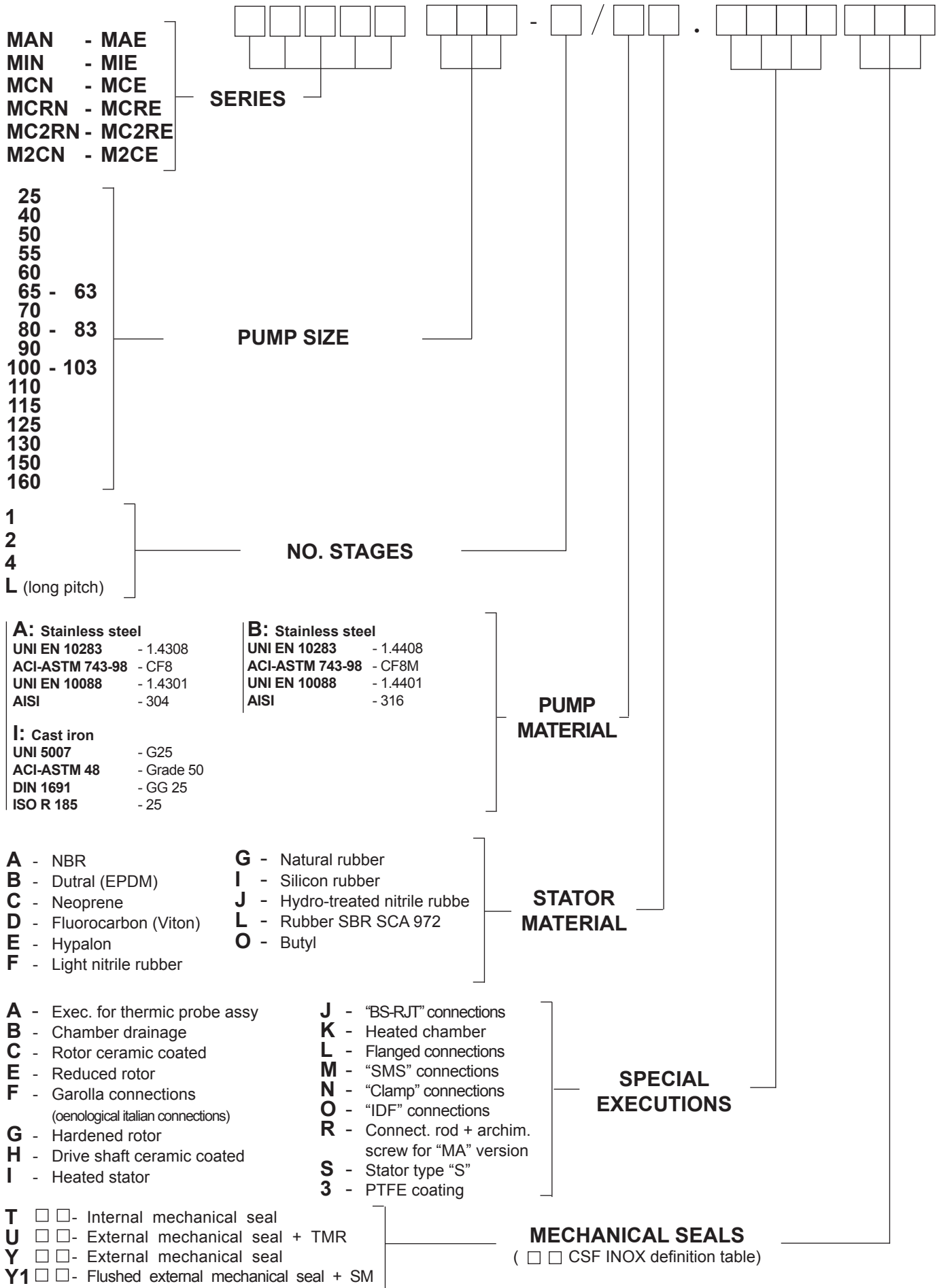
P = Rotor pitch in dm.

2P = Stator pitch

n = rpm.

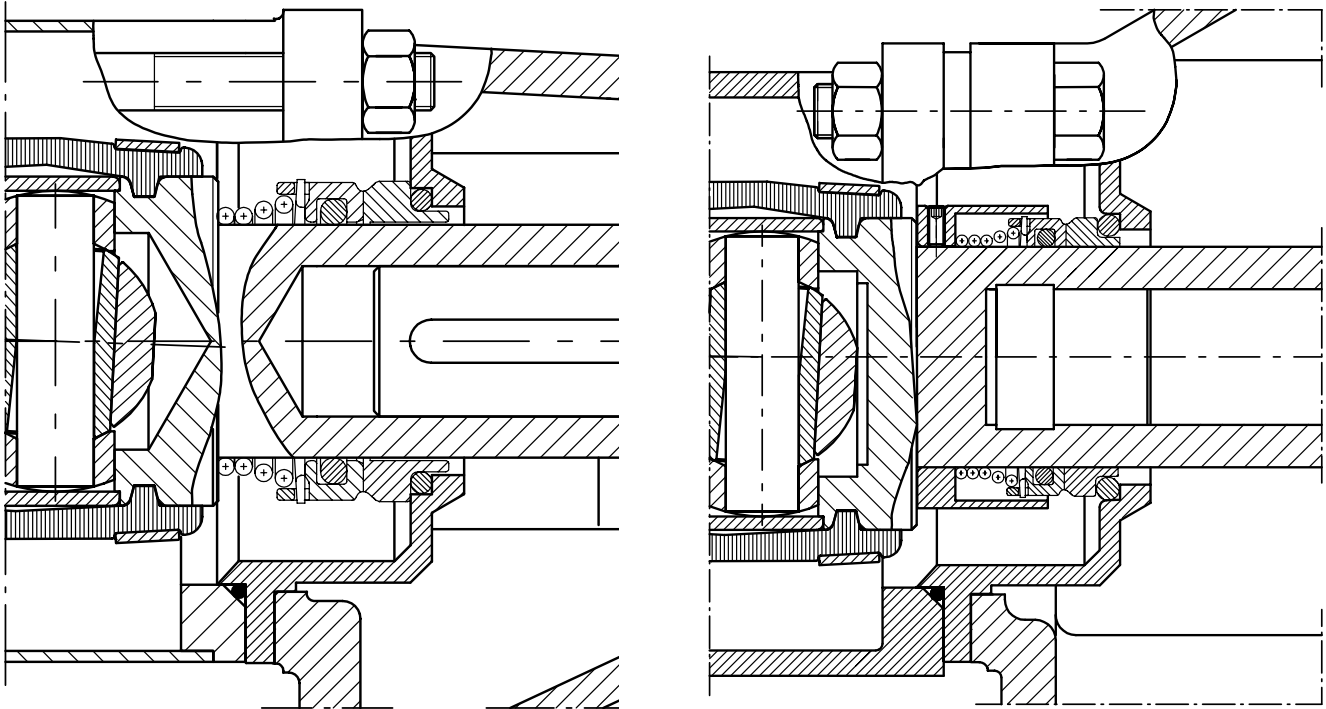
d = Diameter of rotor in dm.

PUMP CODES GUIDE

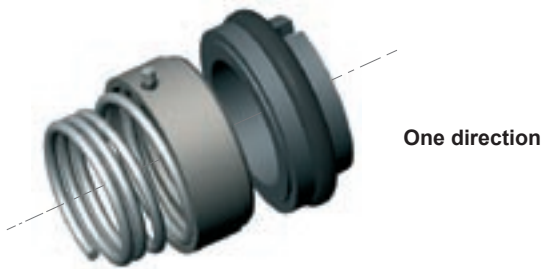


Example: **MAN 100-2 / AF. ET32**

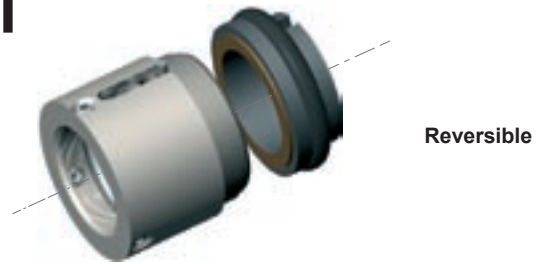
MECHANICAL SEALS



EXECUTION T



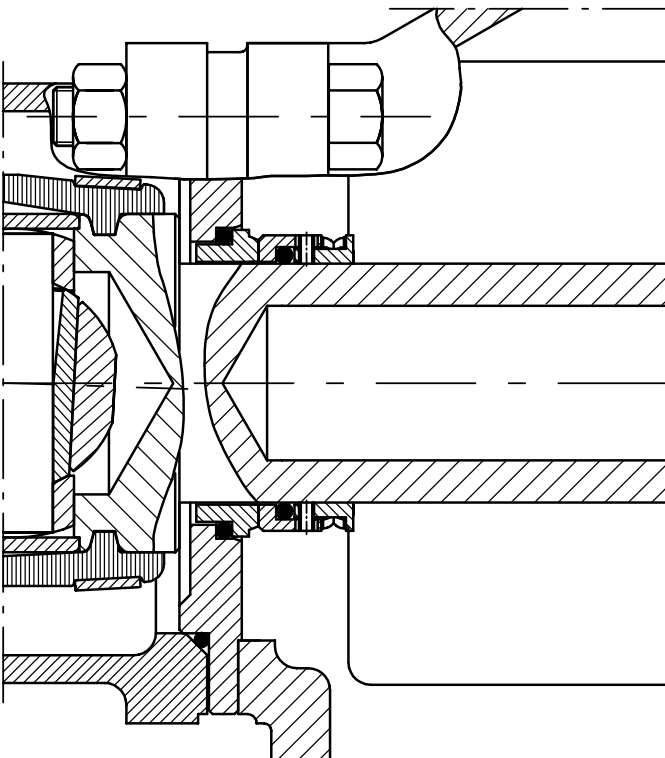
One direction



Reversible

Internal mechanical seal

The rotary mechanical seal is internal in order to ensure improved cooling and consequently to reduce its wear. The type of mechanical seal and the materials of the rotating surfaces and of the elastomers are chosen each time, among the several types available, according to the nature of the handled product.



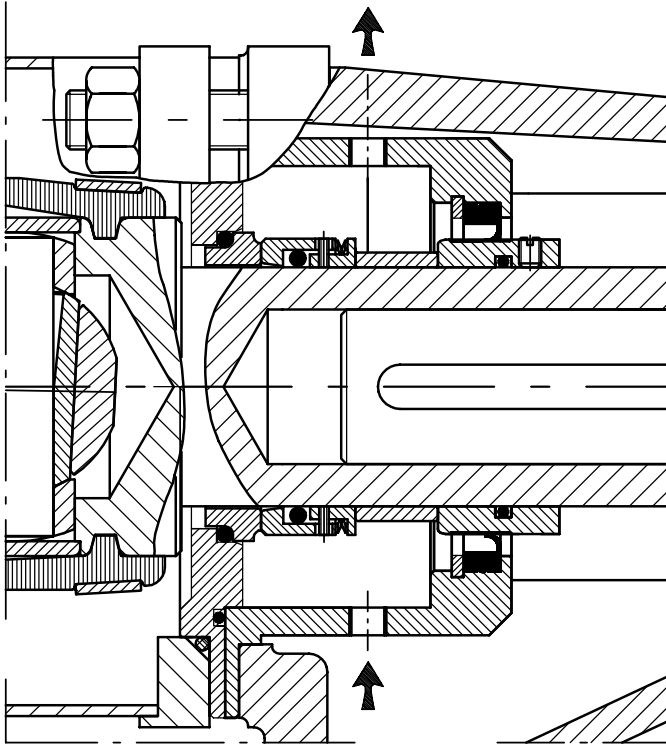
EXECUTION Y

External mechanical seal

For all cases for which the flushing is impossible and where the mechanical seal must not touch the pumped product, in order to avoid sanitary problems, corrosion and conditioning of its running.



FLUSHED MECHANICAL SEALS



EXECUTION U - Y1

Double mechanical seal (U) Flushed mechanical seal (Y1)

Double mechanical seal with circulation of the cleaning and cooling liquid.

It is used with products that tend to crystallise, to glue, to harden, to be abrasive, to reach high temperatures and whenever the seal life is limited.

The function of the fluxing is to clean, lubricate and cool the seal; the circulating liquid must be clean and compatible with the pumped liquid.

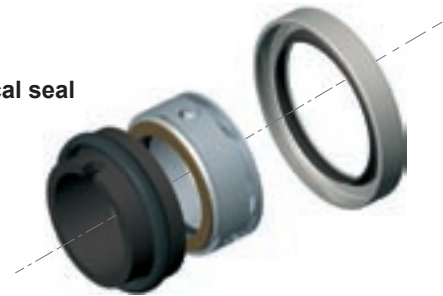
If the seal is leaking the fluxing liquid will point out this fault.

The U execution is composed by an axial mechanical seal and a radial one working on ceramic coated shaft.

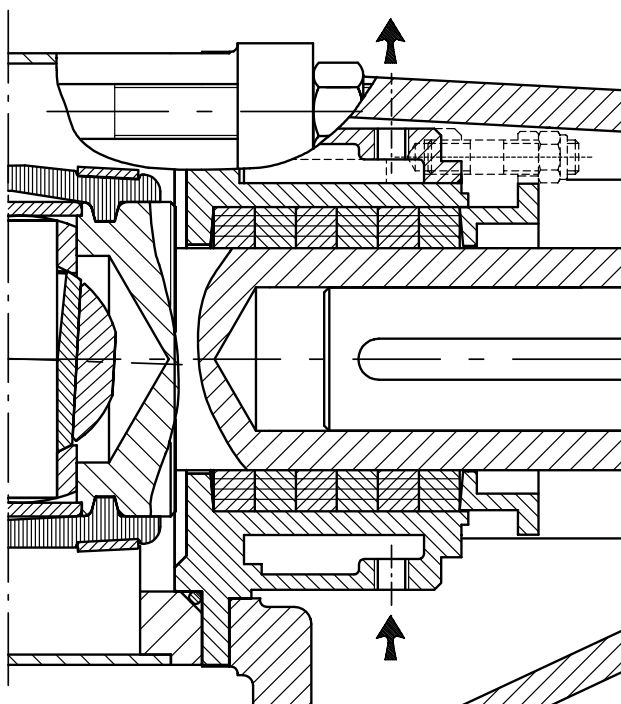
The Y1 execution is composed by an axial mechanical seal and a lip seal for the less heavy duty conditions.

Radial mech. seal

Mechanical seal



PACKED GLAND SEAL



EXECUTION XT00

Cooled packed gland seal

Traditional solution in which a slight dripping does not disturb.

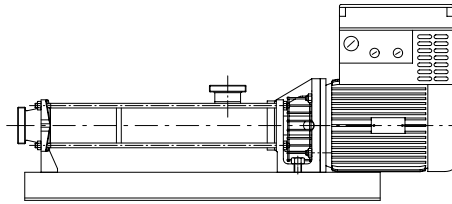
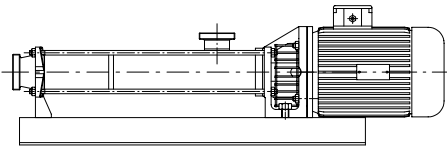




FB		<p>DIRECT MOTOR + FIXED BASE</p> <p>DIRECT MOTOR + INVERTER AND FIXED BASE</p>
FD		<p>MOTOR, PULLEY AND FIXED BASE</p>
FE		<p>GEAR MOTOR AND FIXED BASE</p> <p>GEAR MOTOR + INVERTER AND FIXED BASE</p>
FF		<p>MECHANICAL VARIABLE SPEED MOTOR AND FIXED BASE</p> <p>BELT VARIABLE SPEED MOTOR AND FIXED BASE</p>
F 1 B		<p>DIRECT MOTOR AND TROLLEY</p> <p>DIRECT MOTOR + INVERTER AND TROLLEY</p>
F 1 D		<p>MOTOR, PULLEY AND TROLLEY</p>
F 1 E		<p>GEAR MOTOR AND TROLLEY</p> <p>GEAR MOTOR + INVERTER AND TROLLEY</p>
F 1 F		<p>MECHANICAL VARIABLE SPEED MOTOR AND TROLLEY</p> <p>BELT VARIABLE SPEED MOTOR AND TROLLEY</p>
		<p>VERSION N</p> <p>Independent bench support with double grease lubricated bearings for coupling with flexible joint.</p>



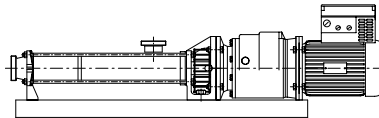
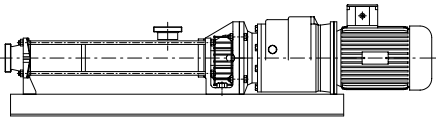
F B



**DIRECT MOTOR +
FIXED BASE**

**DIRECT MOTOR + INVERTER
AND FIXED BASE**

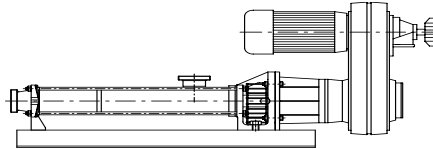
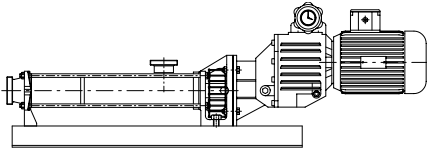
F E



GEAR MOTOR AND FIXED BASE

**GEAR MOTOR + INVERTER AND
FIXED BASE**

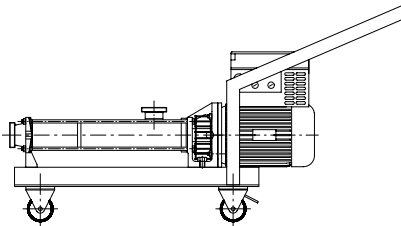
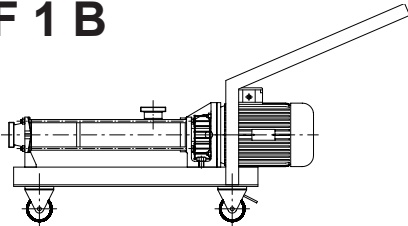
F F



**MECHANICAL VARIABLE SPEED
MOTOR AND FIXED BASE**

**BELT VARIABLE SPEED MOTOR
AND FIXED BASE**

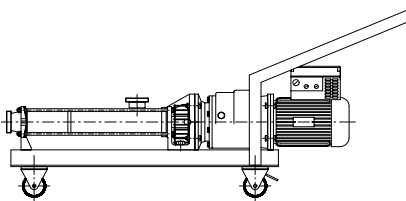
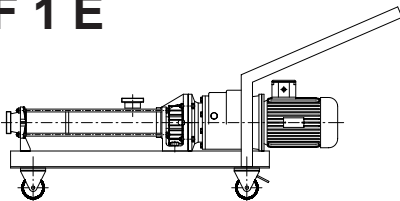
F 1 B



DIRECT MOTOR AND TROLLEY

**DIRECT MOTOR + INVERTER
AND TROLLEY**

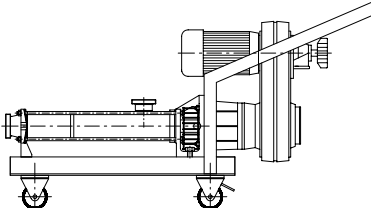
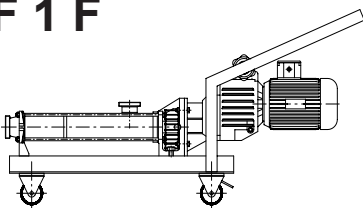
F 1 E



GEAR MOTOR AND TROLLEY

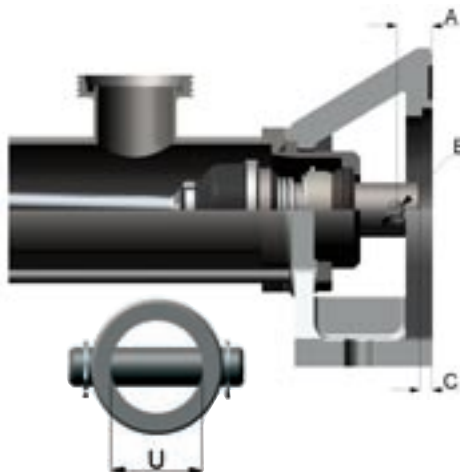
**GEAR MOTOR + INVERTER AND
TROLLEY**

F 1 F



**MECHANICAL VARIABLE SPEED
MOTOR AND TROLLEY**

**BELT VARIABLE SPEED MOTOR
AND TROLLEY**



VERSION E

PUMP SHAFT - COUPLING DIMENSIONS

	TYPE								
	M 25	M 40	M 50 M 55 M 60L	M 63 M 65 M 70L	M 83 M 80 M 90L	M 100 M 103 M 110 M 115	M 125	M 130	M 150
A	15	20	25	25	26	30	32	32	32
B H7	6	8	10	14	16	16	18	18	18
C	=	=	10	10	10	10	10	10	10
U H7	14	19	24	32	35	42	55	55	55

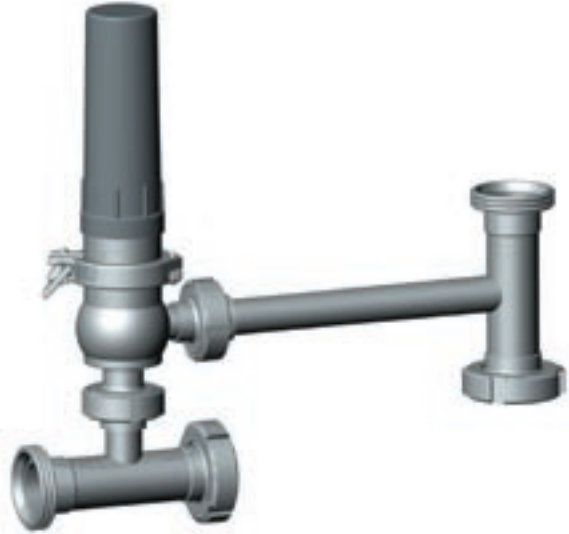
ACCESSORIES



HOPPER LID



AUTOMATIC BY-PASS



STATOR HEATING CHAMBER



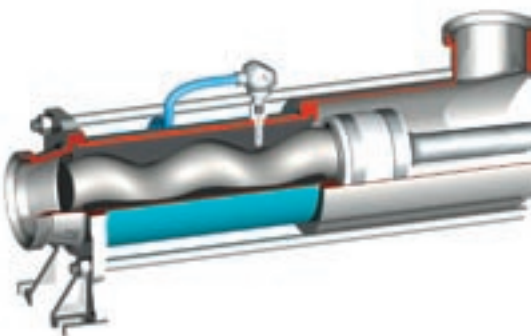
MANUAL BY-PASS



**FLOW METER FOR
SAFETY AGAINST DRY
RUNNING**



HEAT PROBE



ELECTRICAL CONTROL PANEL

