Pompe a girante flessibile

Flexible impeller pumps

CATALOGO TECNICO

TECHNICAL CATALOGUE

LIVERANI

FLUID TRANSFER TECHNOLOGY

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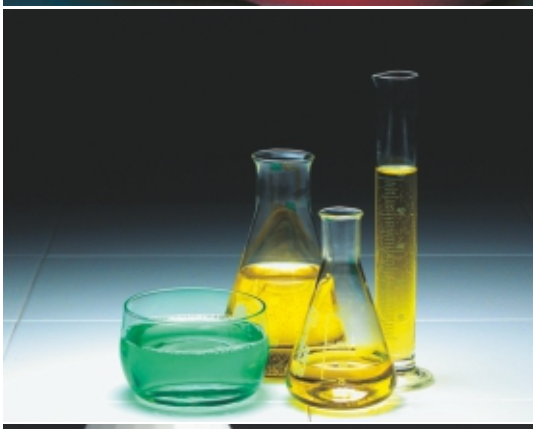


Pompe inox autoadescanti a girante flessibile a basso regime di giri, adatte al trasferimento di fluidi delicati e fragili, viscosi, anche con corpi in sospensione. Le pompe trovano largo impiego nei settori ENOLOGICO (vino, mosto, mosto e uva diraspata), ALIMENTARE (birra, succo e polpa di frutta, miele, zucchero liquido, sciroppi, glucosio, latte, burro, yogurt, uova liquide, olio, salsa di pomodoro, salamoia, ecc.), CHIMICO (amido, colle a base acqua, emulsioni, glicerina, cera, detergenti, lattice di gomma, liquidi fotografici, polielettrolita, vernici, inchiostri, scarichi industriali, ecc.), COSMETICO e FARMACEUTICO (saponi liquidi, detergenti, shampoo, creme, ecc.).

Il meccanismo semplice ed essenziale frutto di un perfetto principio costruttivo, la pluralità dei materiali utilizzati e l'elevato controllo di qualità dell'intero ciclo produttivo, permettono di realizzare pompe estremamente versatili e adatte a soddisfare qualsiasi applicazione richiesta. Ogni modello è disponibile con diversi tipi di girante, tenute meccaniche e raccordi e con molteplici possibilità di esecuzione: pompe ad asse nudo e pompe coassiali con motore elettrico, motore idraulico orbitale, motoriduttore, riduzione a puleggia (su base o carrello), variatore meccanico e inverter.

Stainless steel low-speed rotary pumps with flexible impeller; particularly suitable for transfer of delicate, fragile and viscous fluids, also with solid parts in suspension. Our pumps are widely used in the OENOLOGICAL field (wine, must, must and stemmed grapes), in FOOD processing (beer, fruit pulp and juice, honey, liquid sugar, syrups, glucose, milk, melted butter, yoghurt, liquid eggs, oil, tomatoes pulp and juice, brine, etc.), in CHEMICAL INDUSTRY (starch, water based glues, emulsions, glycerine, wax, detergents, rubber latex, photographic processing liquids, polyelectrolyte, paints, ink, industrial discharges, etc.), in COSMETIC and PHARMACEUTICAL production (liquid soap, cleaning lotion, cream, shampoo, etc.).

The easy mounting principle, the multiple choice of production materials and the Quality System procedure applied throughout production, allow us to offer a wide, versatile and customized product range. Every pump range can be produced with different impeller types, mechanical gasket, couplings and in numerous executions, which are: bare shaft pump; coaxial motorized pump (with electric or orbital hydraulic motor); with gearmotor; with pulley (on trolley or base); with mechanical speed variator or with frequency converter.

Indice
Contents

Serie Type S/P	Serie Type MID

Pompe ad asse nudo e pompe con motore idraulico orbitale
Bare shaft pumps and hydraulic orbital motor pumps

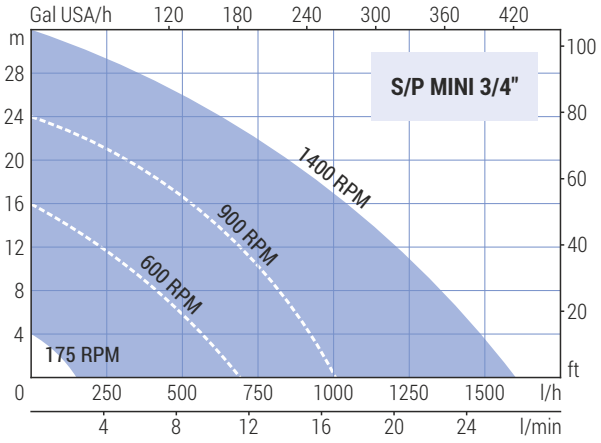
S/P MINI 3/4"

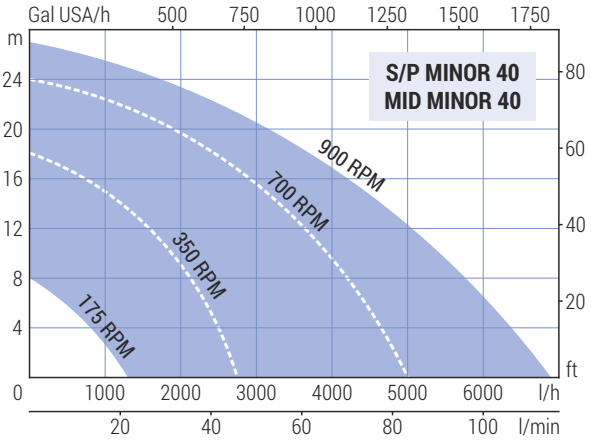
Pompe ad asse nudo (**S/P**)
Bare shaft pumps (**S/P**)

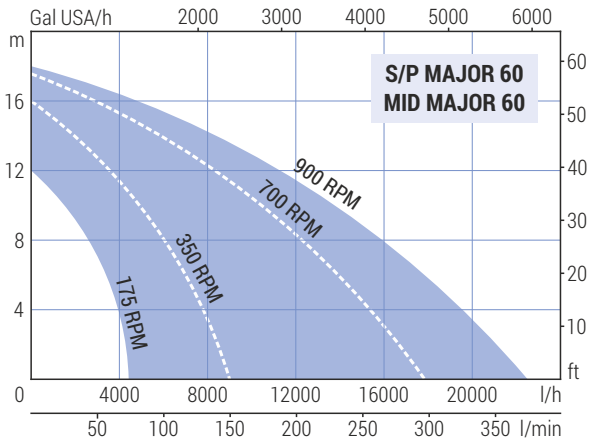
Pompe con motore idraulico orbitale (**MID**)
Hydraulic orbital motor pumps (**MID**)

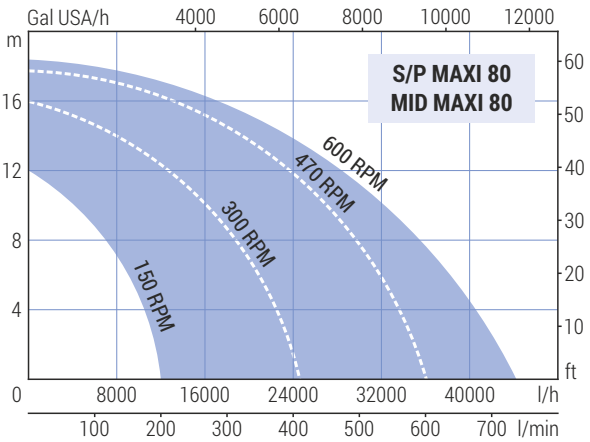
Tipo Type	Giri/min RPM		H = Prevalenza (metri) / Head (meters) 0	4	8	10	12	16	18	20	24	27	32
S/P MINI 3/4"	min	175	150	0									
		600	700	560	390	300	150	0					
		900	1000	900	840	750	720	540	450	350	0		
	max	1400	1620	1440	1320	1230	1140	1020	900	800	600	400	0
S/P MINOR 40 MID MINOR 40	min	175	1320	800	0								
		350	2750	2500	2100	1900	1600	800	0				
		700	5000	4700	4300	4000	3700	3000	2520	1800	0		
	max	900	6900	6200	5760	5400	5040	4200	3660	3200	1800	0	
S/P MAJOR 60 MID MAJOR 60	min	175	4320	3840	2800	1750	0						
		350	9000	7800	6000	4900	3700	0					
		700	18000	15000	12000	10400	8400	2500	0				
	max	900	22500	19560	15000	13750	11220	3000	0				
S/P MAXI 80 MID MAXI 80	min	150	12000	10000	7500	4150	0						
		300	24600	22200	18900	16000	12000	0					
		470	36000	34200	30000	27000	24000	12000	0				
	max	600	43800	41400	36000	33000	30000	16000	0				

Q = Portata (litri/ora) / Capacity (liters/hour)

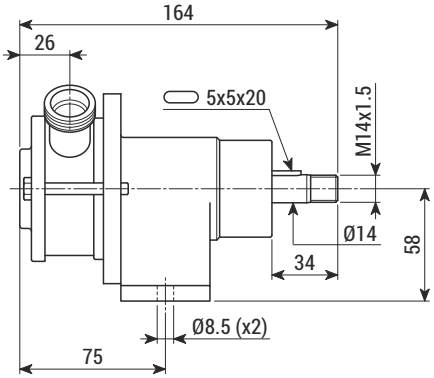


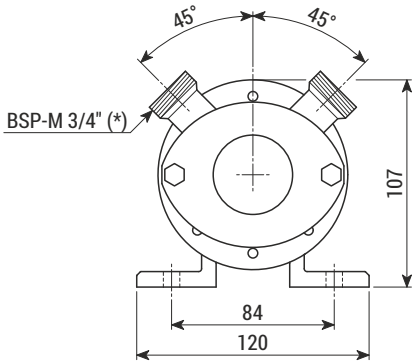




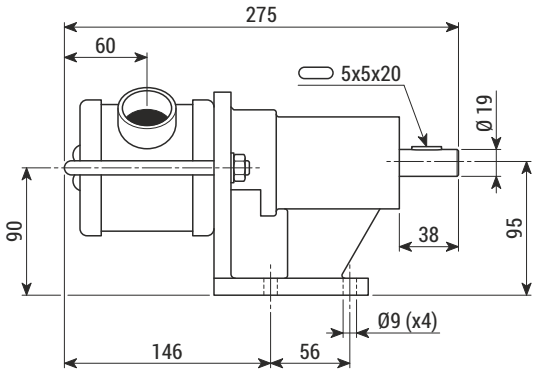


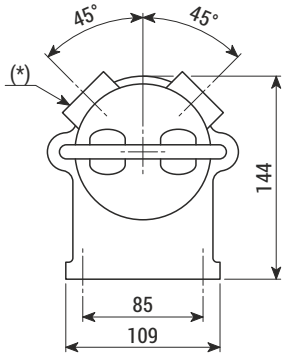
S/P MINI 3/4"
Peso-Weight 1.8 kg



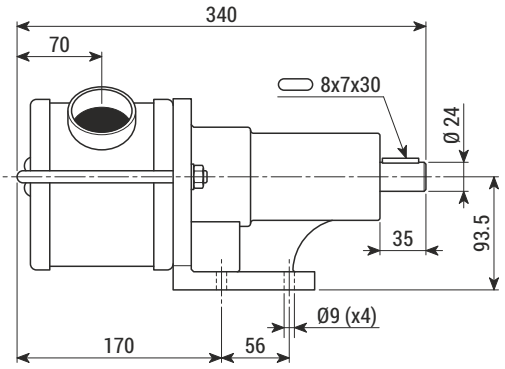


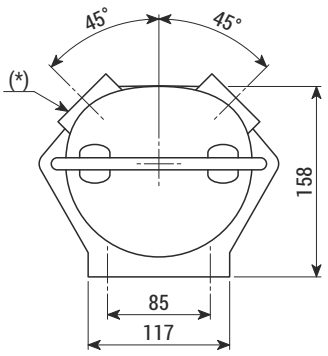
S/P MINOR 40
Peso-Weight 5.4 kg



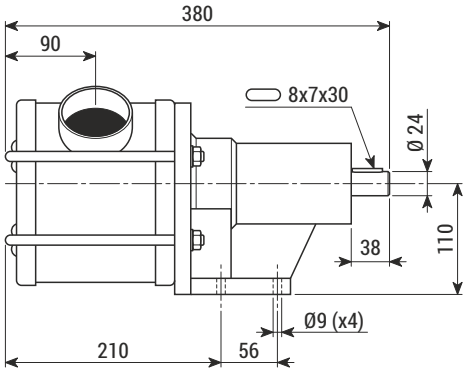


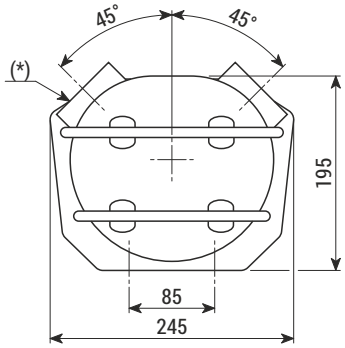
S/P MAJOR 60
Peso-Weight 9.7 kg



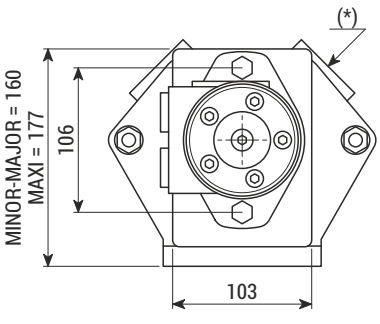


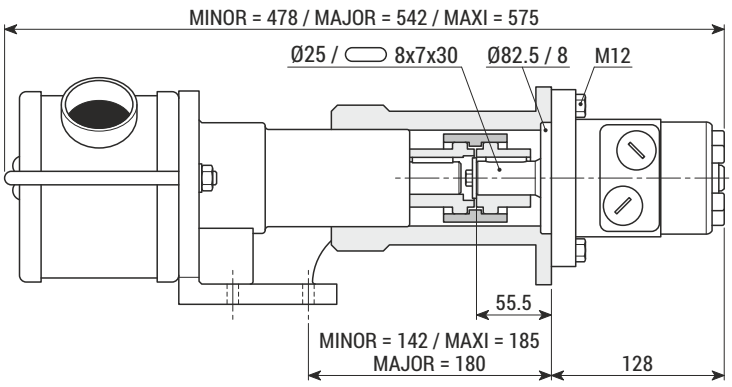
S/P MAXI 80
Peso-Weight 15.7 kg





MID MINOR 40
Peso-Weight 11.7 kg
MID MAJOR 60
Peso-Weight 16 kg
MID MAXI 80
Peso-Weight 22 kg





* raccordi disponibili p.21 / available pipe fittings p.21

Serie
Type
EP

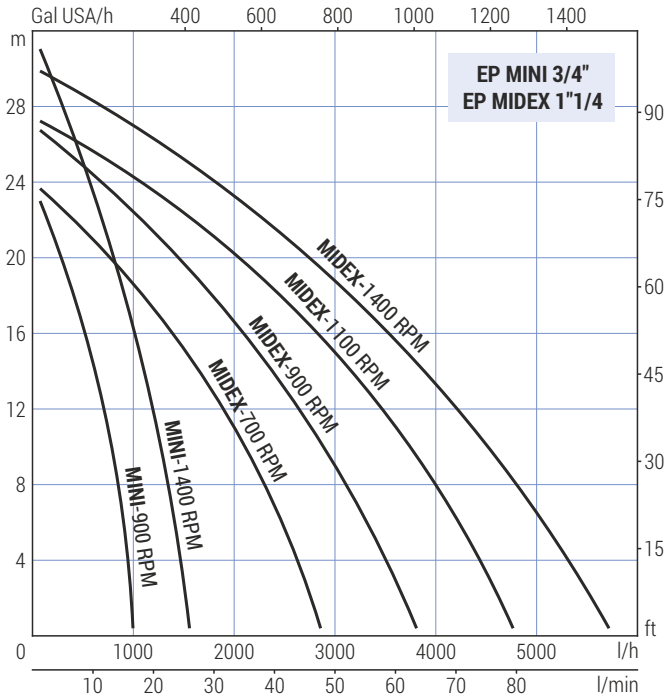
Elettropompe coassiali
Coaxial pumps

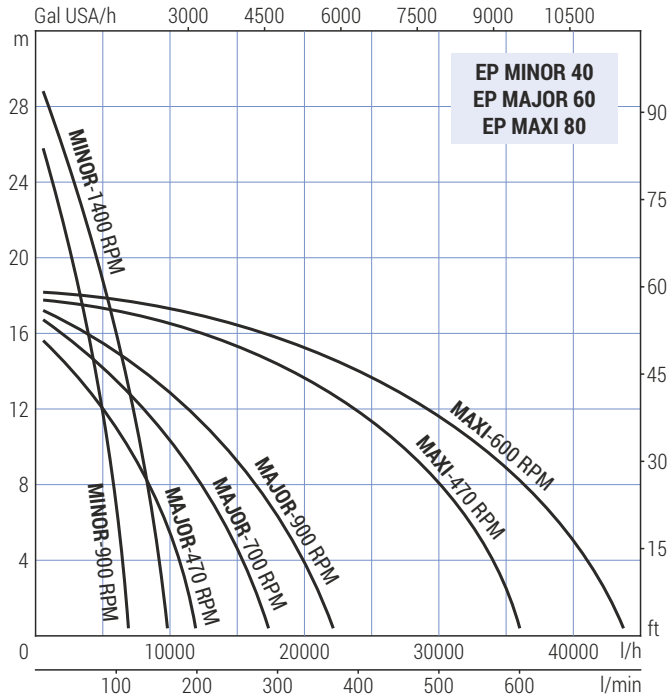
EP MINI 3/4"
EP MIDEX 1"1/4

EP MINOR 40
EP MAJOR 60
EP MAXI 80

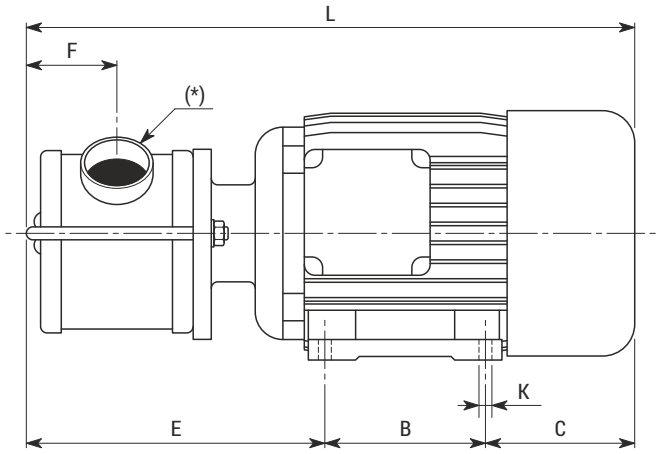
Tipo Type	Motore * Motor *	kW	Velocità Speed	Giri/min RPM	**H** = Prevalenza (metri) / Head (meters)										
					0	4	8	12	16	18	24	27	30	32	
EP MINI 3/4"	MF - TF	0.37	1	900	1000	900	840	720	540	450	0				**Q** = Portata (litri/ora) / Capacity (liters/hour)
	MF - TF	0.56	1	1400	1620	1440	1320	1140	1020	900	600	400	180	0	
	CC 12V	0.3/30A	1	1400	1620	1440	1320	1140	1020	900	600	400	180	0	
	CC 24V	0.3/16A	1	1400	1620	1440	1320	1140	1020	900	600	400	180	0	
EP MIDEX 1"1/4	MF - TF	0.56	1	900	3840	3480	3180	2760	2160	1800	720	0			
	MF - TF	0.75	1	1400	5760	5160	4800	4320	3600	3180	1920	1200	0		
	TF	0.56	2	1400	5760	5160	4800	4320	3600	3180	1920	1200	0		
		0.37		700	2880	2600	2300	1900	1400	1100	0				
	CC 12V	0.5/55A	1	1100	4800	4400	3980	3450	2800	2400	1100	0			
	CC 24V	0.5/28A	1	1100	4800	4400	3980	3450	2800	2400	1100	0			
EP MINOR 40	MF - TF	1.5	1	900	6900	6200	5760	5040	4200	3660	1800	0			
	TF	1.5	1	1400	10000	9000	8000	6900	5500	4900	2600	1700	0		
	TF	2.1	2	1400	10000	9000	8000	6900	5500	4900	2600	1700	0		
		1.2		900	6900	6200	5760	5040	4200	3660	1800	0			
EP MAJOR 60	TF	1.25	1	470	12000	10500	8700	5100	0						
	TF	1.5	1	700	18000	15000	12000	8400	2500	0					
	TF	1.87	1	900	22500	19560	15000	11220	3000	0					
EP MAXI 80	TF	3.3	1	470	36000	34200	30000	24000	12000	0					
	TF	3.5	1	600	43800	41400	36000	30000	16000	0					

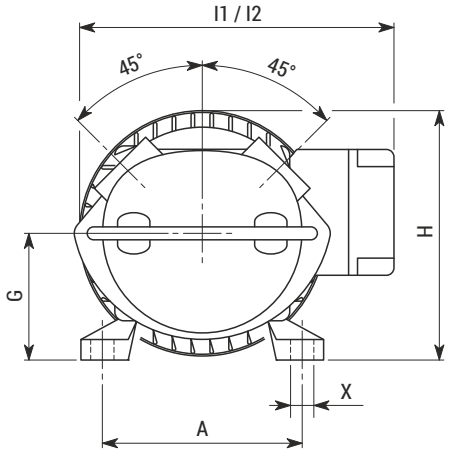
* **MF** = monofase / single-phase - **TF** = trifase / three-phase - **CC** = corrente continua / direct current



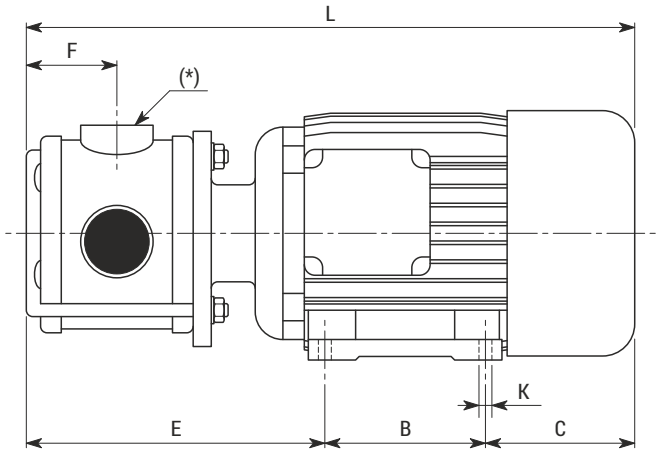


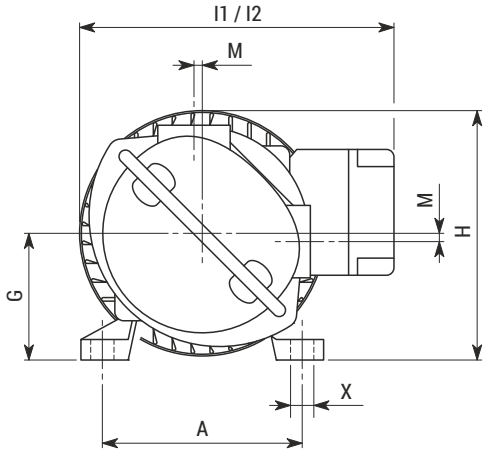
Posizione
Position
V



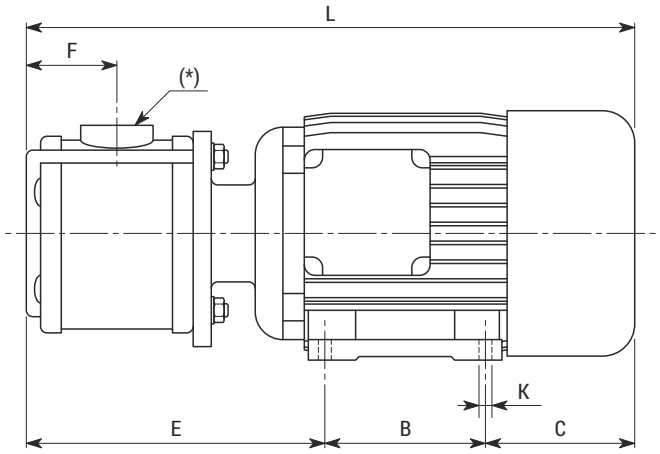


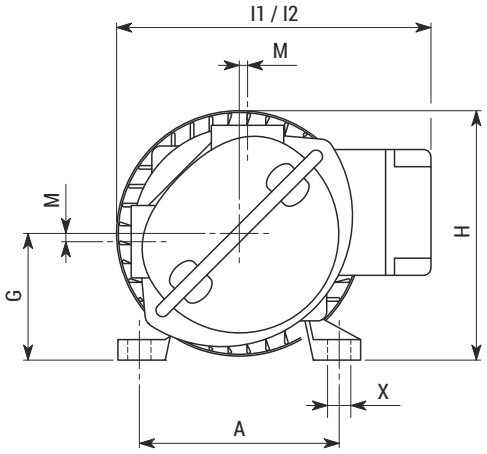
Posizione
Position
90D





Posizione
Position
90S





Tipo Type	Motore Motor	Peso Weight	Velocità Speed	Dimensioni (mm) / Dimensions (mm)											
				A	B	E	F	G	H	I1 **	I2 **	L	M	K	X
EP MINI 3/4"	M71	9÷10 kg	1	112	90	106	26	71	140	192	210	276	0	7	12
EP MIDEX 1"1/4	M80	15 kg	1	125	100	148	38	80	159	200	227	338	7	8	16
	M80	15 kg	2	125	100	148	38	80	159	-	227	338	7	8	16
EP MINOR 40	M90	20 kg	1	140	125	198	60	90	180	210	240	420	4.5	10	16
	M100	27 kg	2	160	140	210	60	100	198	-	260	455	4.5	12	21
EP MAJOR 60	M100	31 kg	1	160	140	253	70	100	198	245	263	490	6.5	12	21
	M112	38 kg	1	190	140	259	70	112	225	275	-	514	6.5	12	22
EP MAXI 80	M132	68 kg	1	216	178	312	90	132	261	320	-	630	13	12	22

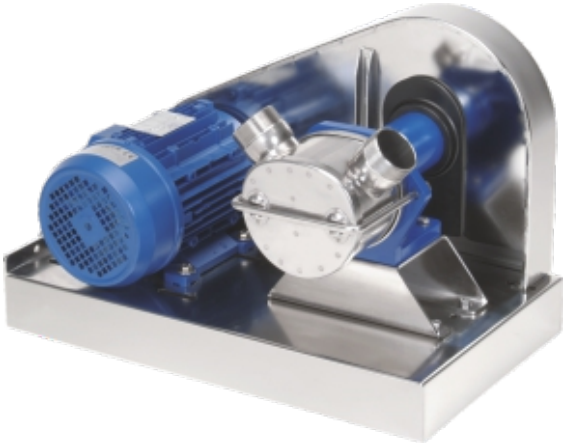
* raccordi disponibili p.21 / available pipe fittings p.21

** I1 = motore con morsettiera / motor with terminal board connection

** I2 = motore con interruttore/invertitore / motor with on-off/rotative reverse switch

Serie
Type
GR

Pompe con riduzione a puleggia su base o carrello
Belt driven pumps on base or trolley



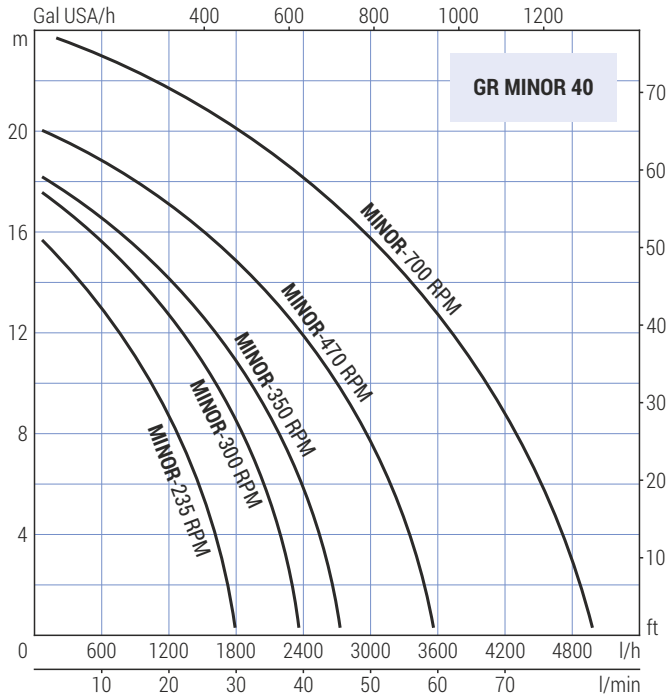
Gruppo a puleggia su base
Belt driven pump on base

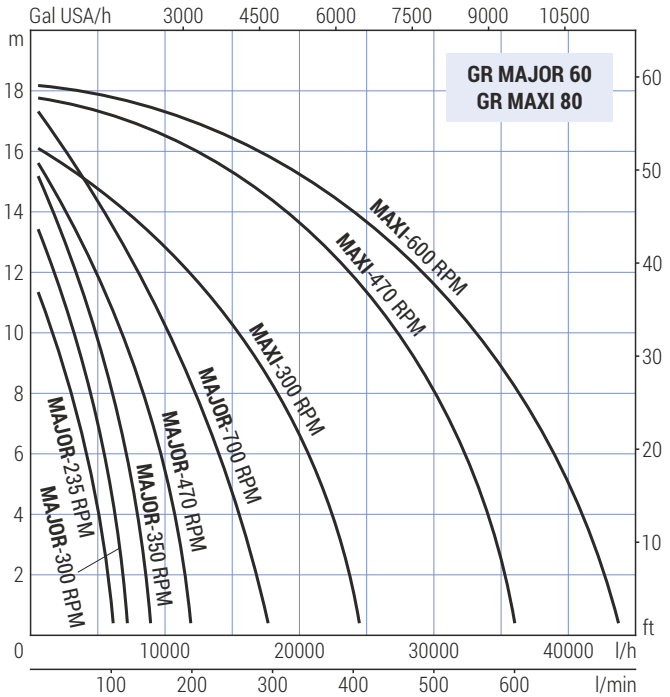
Gruppo a puleggia su carrello
Belt driven pump on trolley

Tipo Type	Motore * Motor *	kW	Velocità Speed	Giri/min RPM	H = Prevalenza (metri) / Head (meters) 0	4	8	10	12	14	16	18	20	24
GR MINOR 40	MF - TF	1.5	1	300	2400	2150	1800	1600	1400	960	700	0		
	MF - TF	1.5	1	470	3600	3300	2900	2700	2400	1990	1600	1000	0	
	MF - TF	1.5	1	700	5000	4700	4300	4000	3700	3360	3000	2520	1800	0
	TF	1.8	2	470	3600	3300	2900	2700	2400	1990	1600	1000	0	
		1.0		235	1800	1600	1300	1000	750	415	0			
	TF	2.2	2	700	5000	4700	4300	4000	3700	3360	3000	2520	1800	0
		1.5		350	2750	2500	2100	1900	1600	1200	800	0		
GR MAJOR 60	MF - TF	1.5	1	300	7200	6270	6090	3230	1760	0				
	MF - TF	1.5	1	470	12000	10500	8700	6750	5100	2630	0			
	TF	1.86	1	700	18000	15000	12000	10400	8400	5470	2500	0		
	TF	1.8	2	470	12000	10500	8700	6750	5100	2630	0			
		1.0		235	6300	5100	3250	2000	0					
	TF	2.2	2	700	18000	15000	12000	10400	8400	5470	2500	0		
		1.5		350	9000	7800	6000	4900	3700	1680	0			
GR MAXI 80	TF	4	1	470	36000	34200	30000	27000	24000	19000	12000	0		
	TF	4	1	600	43800	41400	36000	33000	30000	24000	16000	0		
	TF	4.5	2	600	43800	41400	36000	33000	30000	24000	16000	0		
		3.3		300	24600	22200	18900	16000	12000	7140	0			

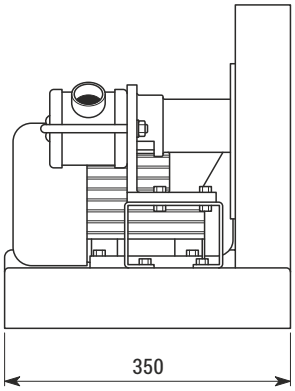
Q = Portata (litri/ora) / Capacity (liters/hour)

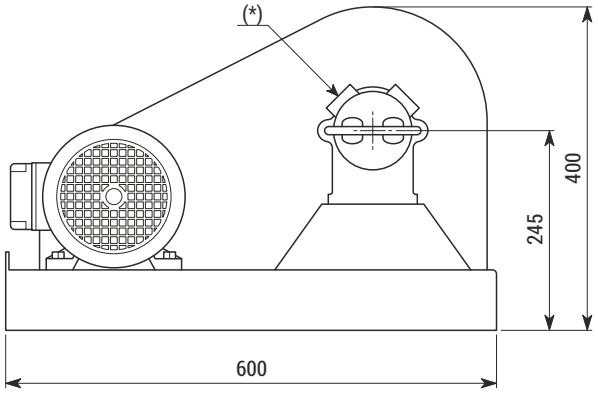
* **MF** = monofase / single-phase - **TF** = trifase / three-phase - **CC** = corrente continua / direct current



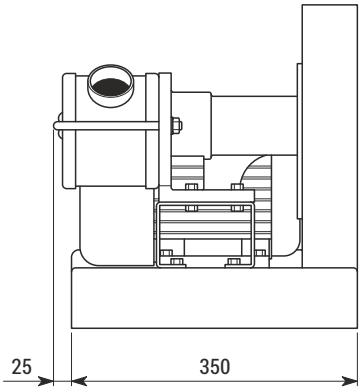


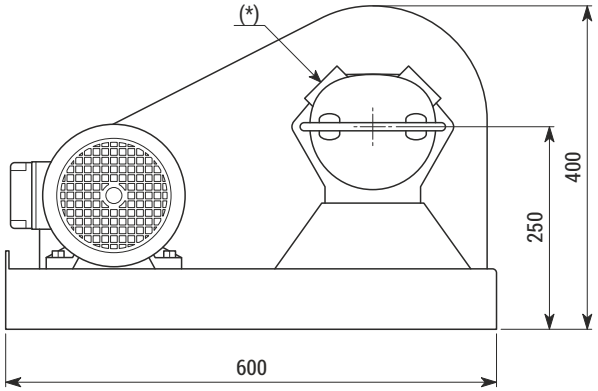
GR MINOR 40
su base-on base
Peso-Weight 36÷45 kg



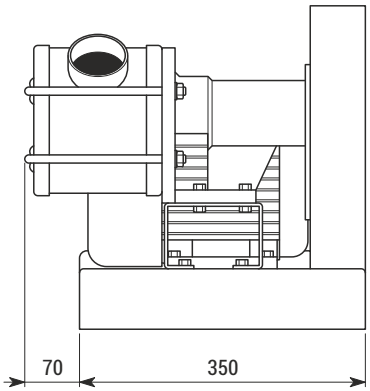


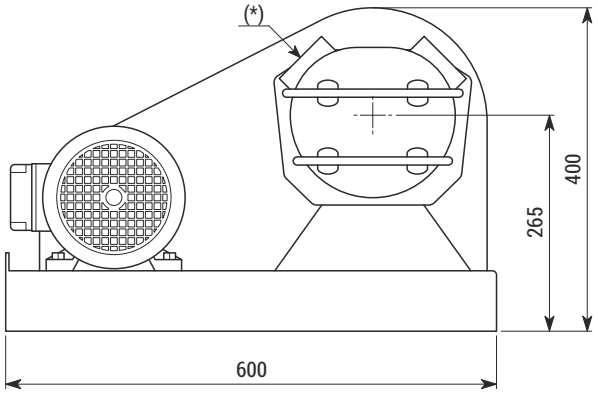
GR MAJOR 60
su base-on base
Peso-Weight 42÷51 kg



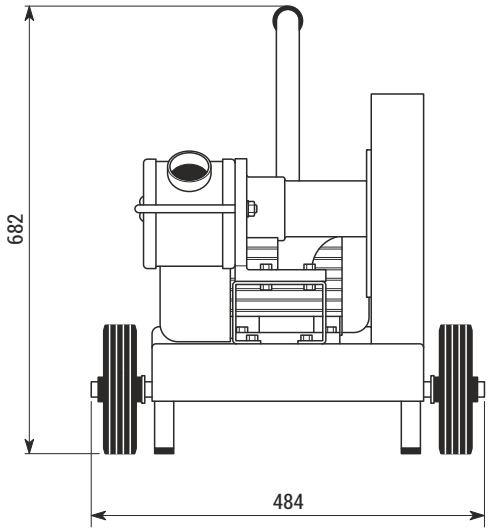


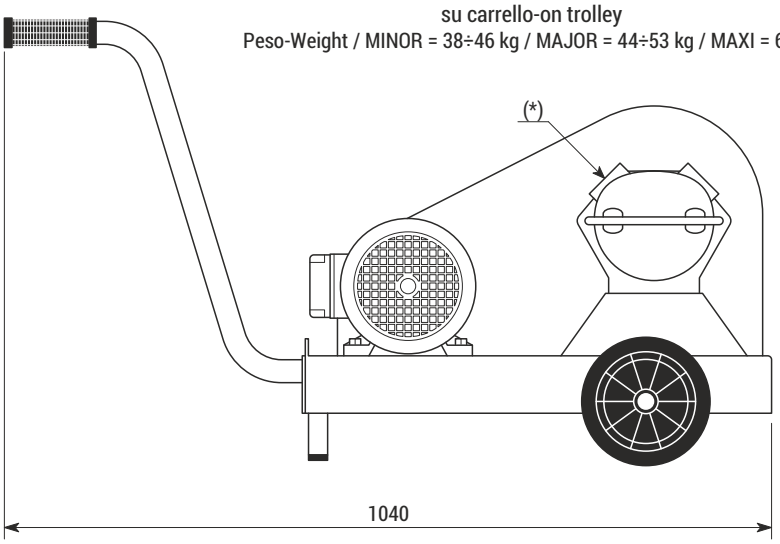
GR MAXI 80
su base-on base
Peso-Weight 65 kg





GR MINOR 40 - MAJOR 60 - MAXI 80
su carrello-on trolley
Peso-Weight / MINOR = 38÷46 kg / MAJOR = 44÷53 kg / MAXI = 67 kg



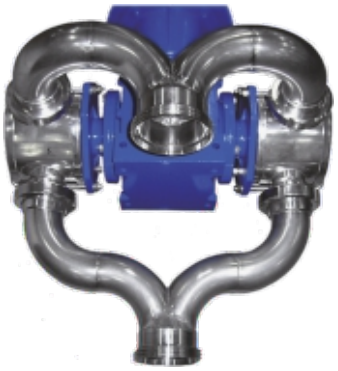


* raccordi disponibili p.21 / available pipe fittings p.21

Pompe con motoriduttore
Pumps with gearmotor

RID MINOR 40
RID MAJOR 60
RID MAXI 80

RID MAXI Double



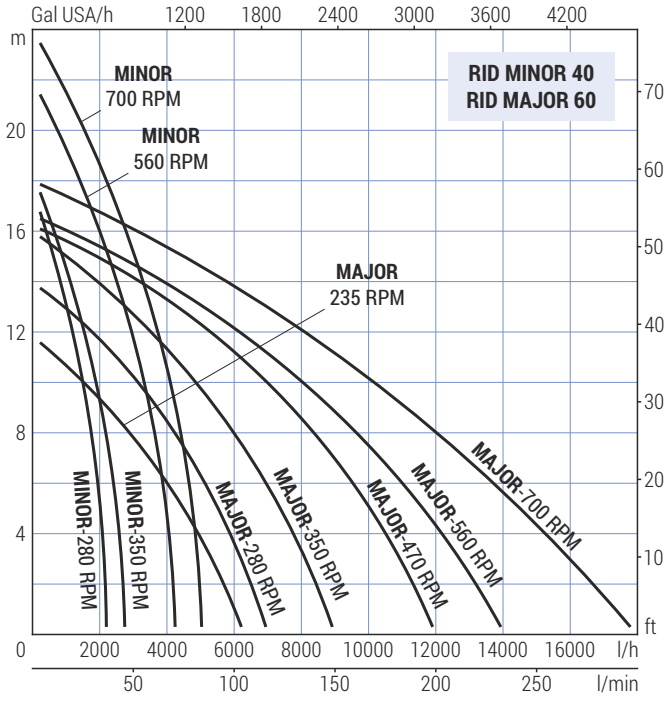
RID MAXI Double 2Q

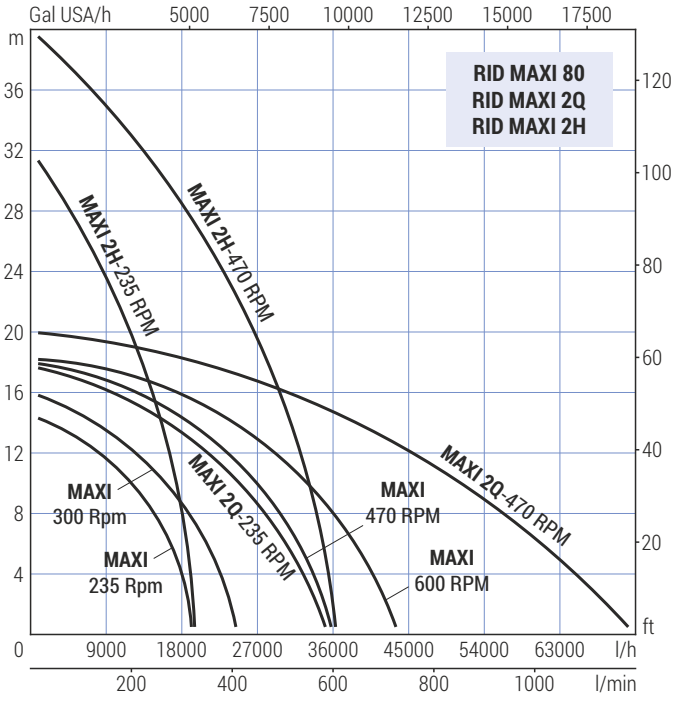
RID MAXI Double 2H

Tipo Type	Motore * Motor *	kW	Velocità Speed	Giri/min RPM	H = Prevalenza (metri) / Head (meters)											
					0	4	8	12	14	16	18	20	22	24	32	40
RID MINOR 40	TF	1.5	1	280	2200	2000	1700	1200	830	500	0					
	TF	1.5	1	350	2750	2500	2100	1600	1100	800	0					
	TF	2.2	1	560	4250	4000	3600	2900	2500	2000	1400	750	0			
	TF	1.5	1	700	5000	4700	4300	3700	3300	3000	2520	1800	850	0		
	TF	2.2	2	560	4250	4000	3600	2900	2500	2000	1400	750	0			
		1.5		280	2200	2000	1700	1200	830	500	0					
	TF	2.2	2	700	5000	4700	4300	3700	3300	3000	2520	1800	850	0		
		1.5		350	2750	2500	2100	1600	1100	800	0					
RID MAJOR 60	TF	2.2	1	235	6300	5100	3250	0								
	TF	2.2	1	280	7000	5800	4100	1750	0							
	TF	2.2	1	560	14000	12000	9500	6000	4000	0						
	TF	2.2	1	350	9000	7800	6000	3700	2000	0						
	TF	2.2	1	470	12000	10500	8700	5100	3600	0						
	TF	2.2	1	700	18000	15000	12000	8400	5700	2500	0					
	TF	2.2	2	470	12000	10500	8700	5100	3600	0						
		1.5		235	6300	5100	3250	0								
	TF	2.2	2	560	14000	12000	9500	6000	4000	0						
		1.5		280	7000	5800	4100	1750	0							
	TF	2.2	2	700	18000	15000	12000	8400	5700	2500	0					
		1.5		350	9000	7800	6000	3700	2000	0						
RID MAXI 80	TF	4	1	235	19200	18000	14700	9600	0							
	TF	4	1	300	24600	22200	18900	12000	7600	0						
	TF	4	1	470	36000	34200	30000	24000	19000	12000	0					
	TF	4	1	600	43800	41400	36000	30000	23500	16000	0					
	TF	4.5	2	470	36000	34200	30000	24000	19000	12000	0					
		3.3		235	19200	18000	14700	9600	0							
	TF	4.5	2	600	43800	41400	36000	30000	23500	16000	0					
		3.3		300	24600	22200	18900	12000	7600	0						
RID MAXI Double 2Q	TF	5.5	1	470	72000	65000	56500	45000	38000	30000	20000	0				
	TF	5.5	2	470	72000	65000	56500	45000	38000	30000	20000	0				
		3		235	36000	33000	27900	20500	16000	10000	0					
RID MAXI Double 2H	TF	5.5	1	470	36000	35000	34000	32000	30000	29700	28400	27000	24600	23600	14300	0
	TF	5.5	2	470	36000	35000	34000	32000	30000	29700	28400	27000	24600	23600	14300	0
		3		235	19200	18500	18000	16200	15000	14300	13200	12000	10000	9000	0	

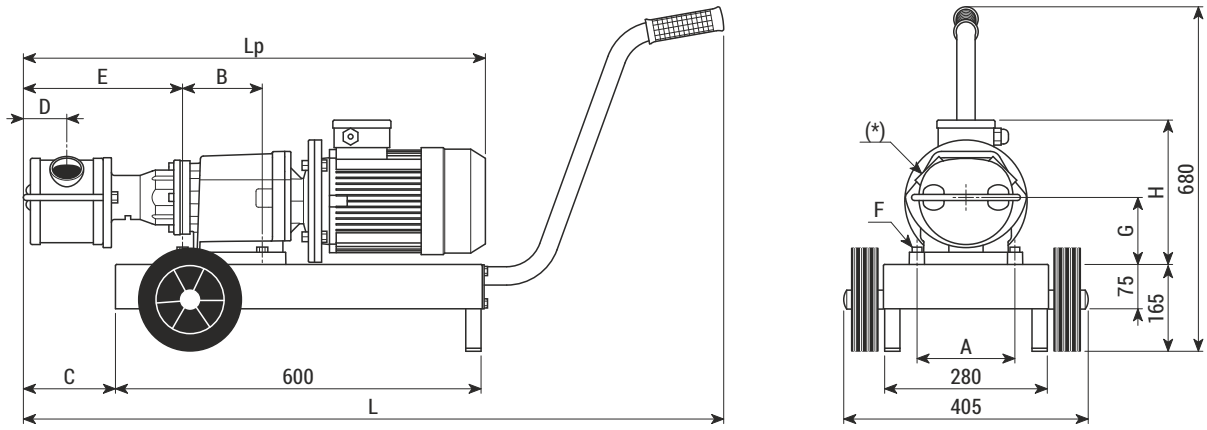
Q = Portata (litri/ora) / Capacity (liters/hour)

* **TF** = trifase / three-phase - **CC** = corrente continua / direct current



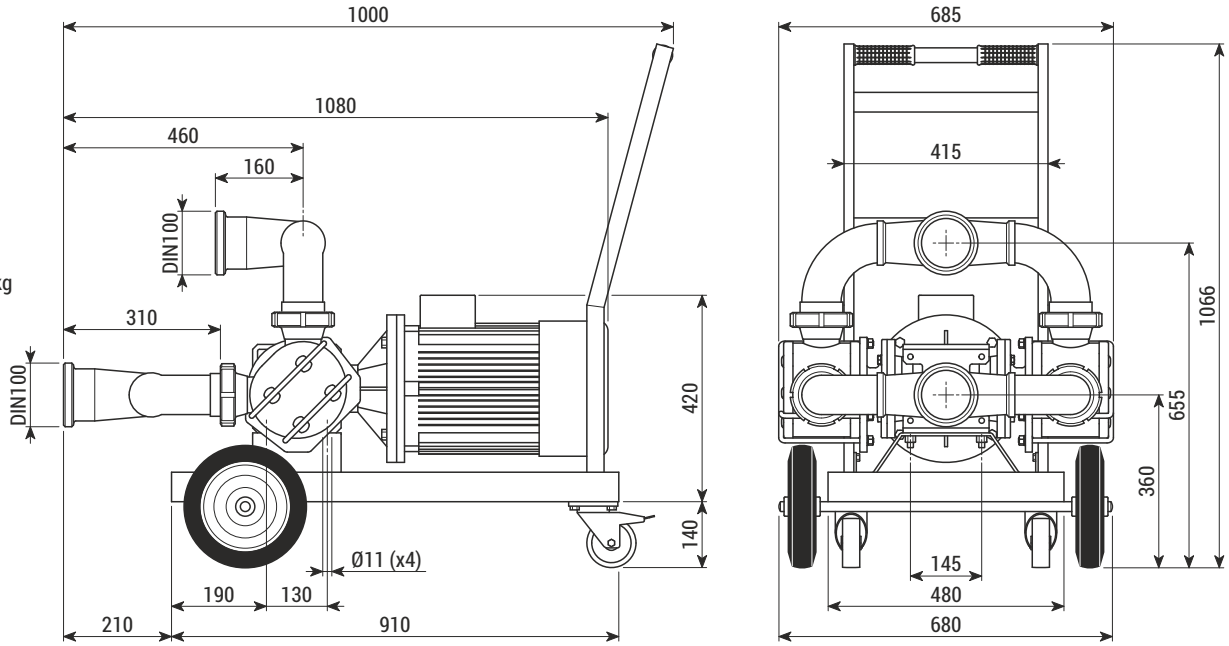


RID MINOR 40
RID MAJOR 60
RID MAXI 80



Tipo Type	Peso Weight	Dimensioni (mm) / Dimensions (mm)									
		A	B	C	D	E	F	G	H	L	Lp
RID MINOR 40	42 kg	130	107.5	64	58.4	194	Ø11	100	232.5	1101	652
RID MAJOR 60	44 kg	160	130	150.6	71	258	Ø11	105.6	236	1188	756
RID MAXI 80	65 kg	180	105	113	88	221	Ø14	130	304	1150	783

RID MAXI Double 2Q
RID MAXI Double 2H
Peso-Weight 185÷200 kg



* raccordi disponibili p.21 / available pipe fittings p.21

Serie Type	Serie Type
VA	**INV**

Pompe con variatore o inverter
Pumps with mechanical speed variator or frequency converter

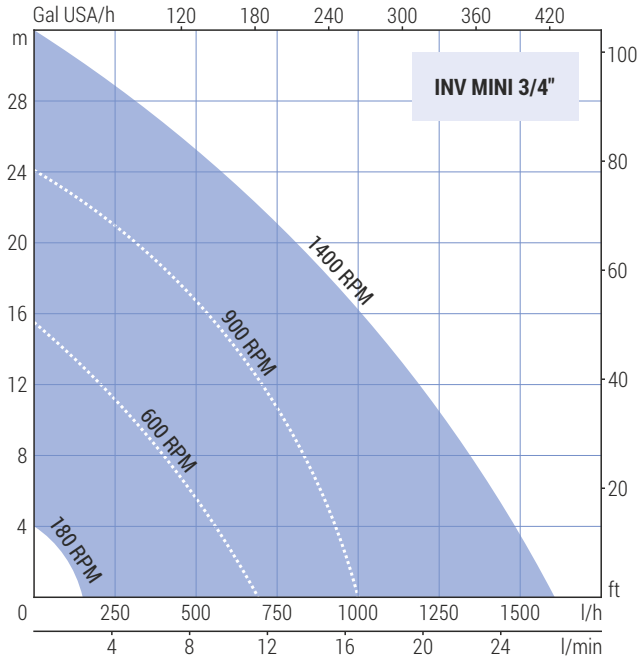
Pompe con variatore (**VA**)
Pumps with mech. speed variator (**VA**)

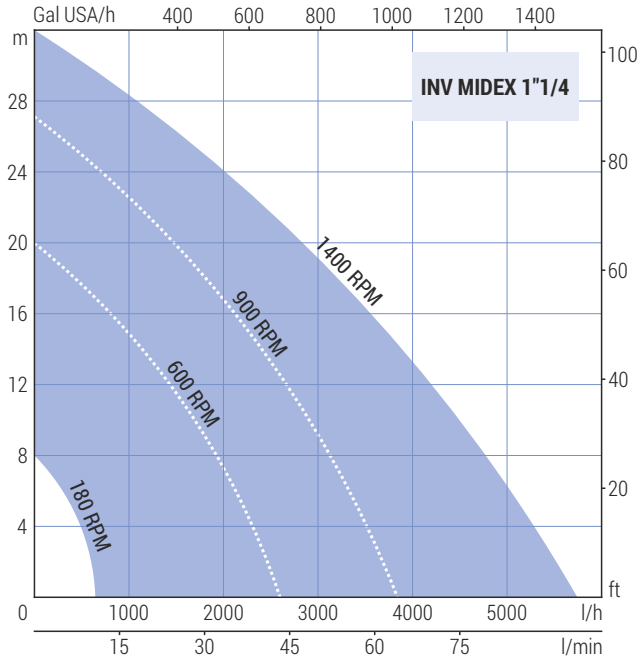
Pompe con inverter (**INV**)
Pumps with frequency converter (**INV**)

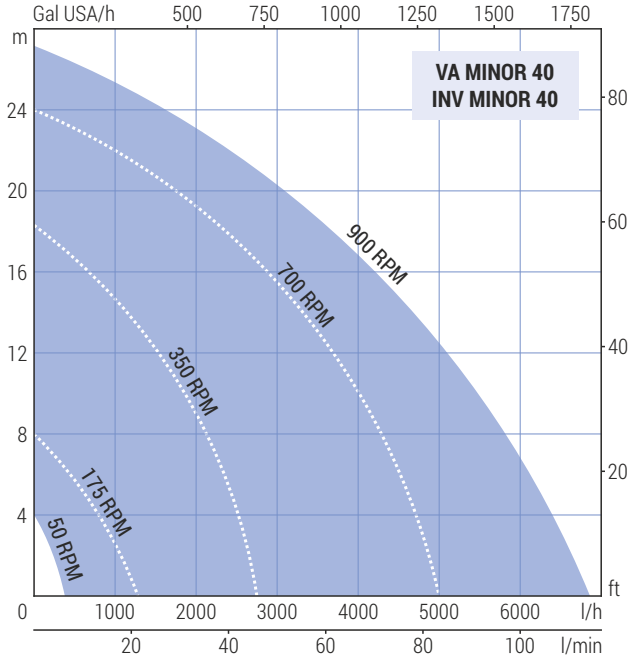
Tipo Type	Alimentazione * Feeding *		kW	Giri/min RPM	**H** = Prevalenza (metri) / Head (meters)											
					0	4	8	12	16	18	20	24	27	32	40	
VA MINOR 40	TF 230-400V 50Hz		1.5	min 175	1320	800	0									
				350	2750	2500	2100	1600	800	0						
				700	5000	4700	4300	3700	3000	2520	1800	0				
				max 900	6900	6200	5760	5040	4200	3660	3200	1800	0			
VA MAJOR 60	TF 230-400V 50Hz		1.87	min 175	4320	3840	2800	0								
				350	9000	7800	6000	3700	0							
				700	18000	15000	12000	8400	2500	0						
				max 900	22500	19560	15000	11220	3000	0						
VA MAXI 80	TF 230-400V 50Hz		4	min 150	12000	10000	7500	0								
				300	24600	22200	18900	12000	0							
				470	36000	34200	30000	24000	12000	0						
				max 600	43800	41400	36000	30000	16000	0						
INV MINI 3/4"	MF 230V 50Hz	TF 400V 50Hz	0.56	min 180	150	0										
				600	700	560	390	150	0							
				900	1000	900	840	720	540	450	350	0				
				max 1400	1620	1440	1320	1140	1020	900	800	600	400	0		
INV MIDEX 1"1/4	MF 230V 50Hz	TF 400V 50Hz	0.75	min 180	600	480	0									
				600	2600	2300	2000	1400	800	400	0					
				900	3840	3480	3180	2760	2160	1800	1600	720	0			
				max 1400	5760	5160	4800	4320	3600	3180	2800	1920	1200	0		
INV MINOR 40	MF 230V 50Hz	TF 400V 50Hz	1.87	min 50	380	0										
				175	1320	800	0									
				350	2750	2500	2100	1600	800	0						
				700	5000	4700	4300	3700	3000	2520	1800	0				
				max 900	6900	6200	5760	5040	4200	3660	3200	1800	0			
INV MAJOR 60	MF 230V 50Hz	TF 400V 50Hz	2.2	min 50	1230	0										
				175	4320	3840	2800	0								
				350	9000	7800	6000	3700	0							
				700	18000	15000	12000	8400	2500	0						
				max 900	22500	19560	15000	11220	3000	0						
INV MAXI 80	TF 400V 50Hz		4	min 50	3800	0										
				150	12000	10000	7500	0								
				300	24600	22200	18900	12000	0							
				470	36000	34200	30000	24000	12000	0						
				max 600	43800	41400	36000	30000	16000	0						
INV MAXI Double 2Q	TF 400V 50Hz		5.5	min 50	7600	0										
				175	27000	24000	20000	13000	0							
				235	36000	33000	27500	20500	10000	0						
				350	54000	48500	41500	33000	22000	14000	0					
				max 470	72000	65000	56000	45000	30000	20000	0					
INV MAXI Double 2H	TF 400V 50Hz		5.5	min 50	3800	2000	0									
				175	14100	13500	12600	11400	9700	8600	7400	4500	0			
				235	19200	18500	17500	16200	14300	13200	12000	9000	5900	0		
				350	27600	26700	25500	24000	22200	21000	20000	17200	14800	9700	0	
				max 470	36000	35000	33600	32000	29700	28400	27000	23600	20600	14300	0	

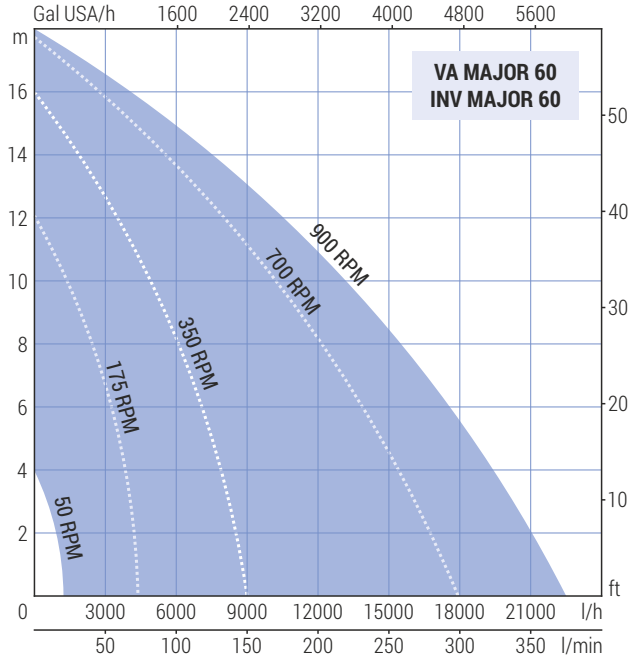
Q = Portata (litri/ora) / Capacity (liters/hour)

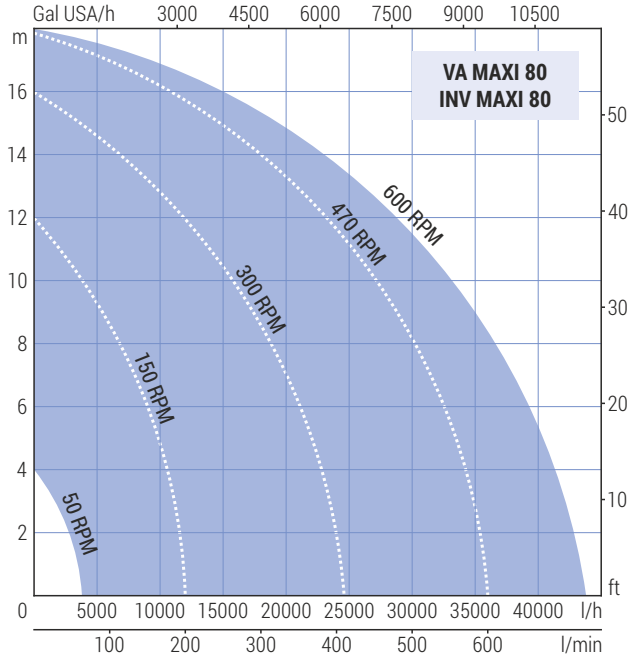
* **MF** = monofase / single-phase - **TF** = trifase / three-phase

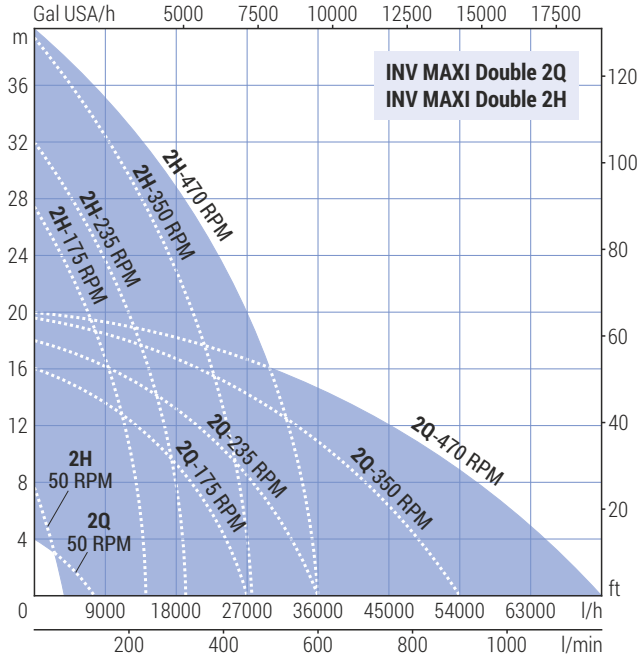

INV MINI 3/4"
Gal USA/h 120 180 240 300 360 420
m 28 24 20 16 12 8 4 0
ft 100 80 60 40 20
1400 RPM
900 RPM
600 RPM
180 RPM
250 500 750 1000 1250 1500 l/h
4 8 12 16 20 24 l/min


INV MIDEX 1"1/4
Gal USA/h 400 600 800 1000 1200 1400
m 28 24 20 16 12 8 4 0
ft 100 80 60 40 20
1400 RPM
900 RPM
600 RPM
180 RPM
1000 2000 3000 4000 5000 l/h
15 30 45 60 75 l/min

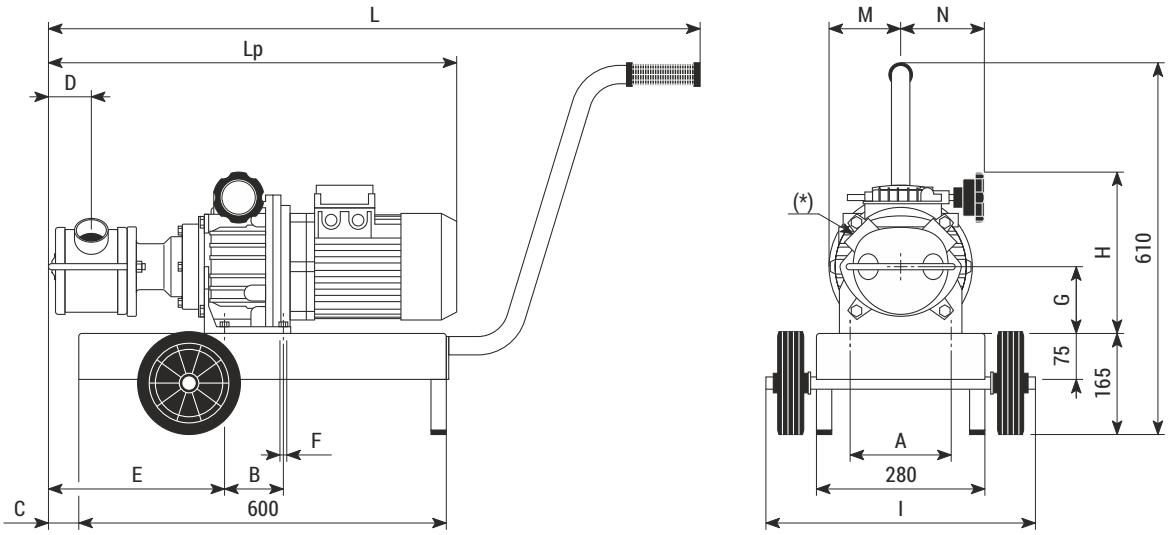

VA MINOR 40
INV MINOR 40
Gal USA/h 500 750 1000 1250 1500 1750
m 24 20 16 12 8 4 0
ft 80 60 40 20
900 RPM
700 RPM
350 RPM
175 RPM
50 RPM
1000 2000 3000 4000 5000 6000 l/h
20 40 60 80 100 l/min


VA MAJOR 60
INV MAJOR 60
Gal USA/h 1600 2400 3200 4000 4800 5600
m 16 14 12 10 8 6 4 2 0
ft 50 40 30 20 10
900 RPM
700 RPM
350 RPM
175 RPM
50 RPM
3000 6000 9000 12000 15000 18000 21000 l/h
50 100 150 200 250 300 350 l/min

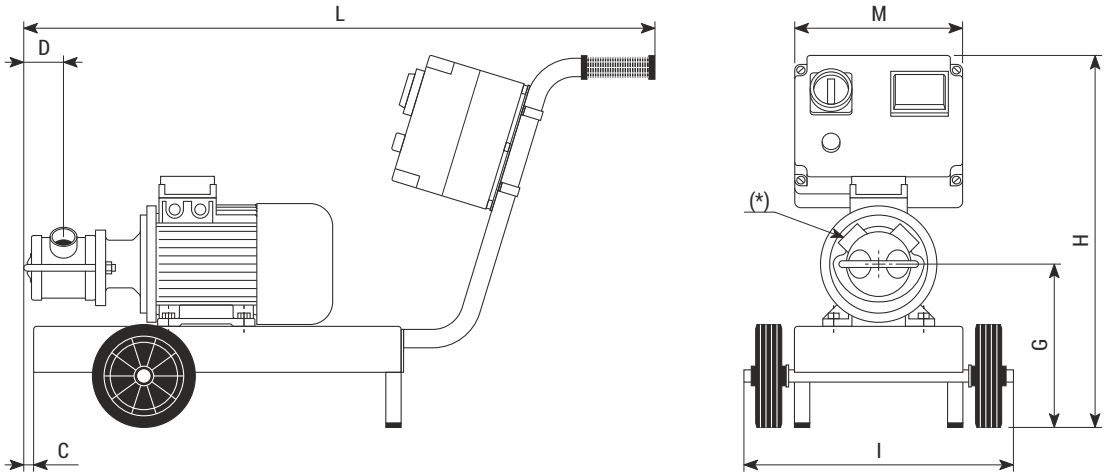

VA MAXI 80
INV MAXI 80
Gal USA/h 3000 4500 6000 7500 9000 10500
m 16 14 12 10 8 6 4 2 0
ft 50 40 30 20 10
600 RPM
470 RPM
300 RPM
150 RPM
50 RPM
5000 10000 15000 20000 25000 30000 35000 40000 l/h
100 200 300 400 500 600 l/min


INV MAXI Double 2Q
INV MAXI Double 2H
Gal USA/h 5000 7500 10000 12500 15000 17500
m 36 32 28 24 20 16 12 8 4 0
ft 120 100 80 60 40 20
2H-470 RPM
2H-350 RPM
2H-235 RPM
2H-175 RPM
2Q-470 RPM
2Q-350 RPM
2Q-235 RPM
2Q-175 RPM
2H 50 RPM
2Q 50 RPM
9000 18000 27000 36000 45000 54000 63000 l/h
200 400 600 800 1000 l/min

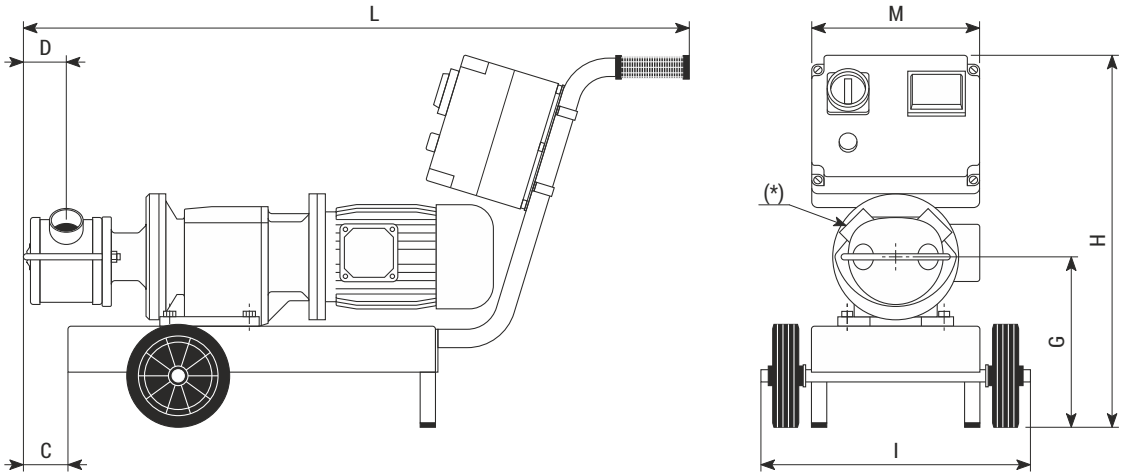
VA MINOR 40
VA MAJOR 60
VA MAXI 80



INV MINI 3/4”
INV MIDEX 1”1/4



INV MINOR 40
INV MAJOR 60
INV MAXI 80



Tipo Type	Peso Weight	Dimensioni (mm) / Dimensions (mm)												
		A	B	C	D	E	F	G	H	I	L	Lp	M	N
VA MINOR 40	63 kg	164	96	20	60	260	Ø11	109	264	405	1030	640	117	137
VA MAJOR 60	67 kg	164	96	55	70	295	Ø11	109	264	405	1065	675	117	137
VA MAXI 80	109 kg	200	120	115	90	305	M12	132	337	405	1125	770	136	172.5
INV MINI 3/4”	17 kg	-	-	-	26	-	-	175	550	331	790	-	285	-
INV MIDEX 1”1/4	23 kg	-	-	15	38	-	-	175	550	331	805	-	285	-
INV MINOR 40	45 kg	-	-	70	60	-	-	268	610	405	1050	-	285	-
INV MAJOR 60	55 kg	-	-	135	70	-	-	275	610	405	1145	-	285	-
INV MAXI 80	95 kg	-	-	160	90	-	-	295	610	405	1200	-	285	-
INV MAXI Double	185÷200 kg	Dimensioni p.11 / Dimensions p.11												

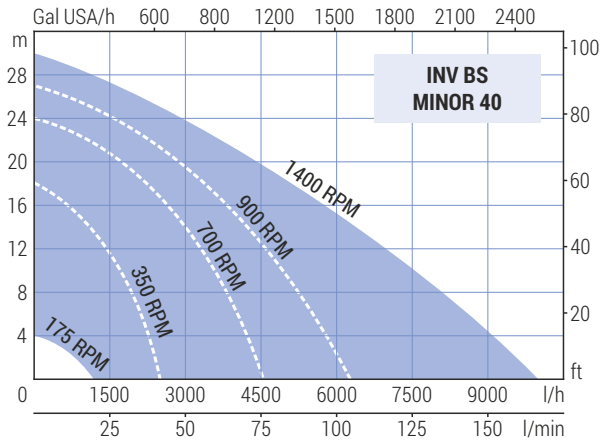
* raccordi disponibili p.21 / available pipe fittings p.21

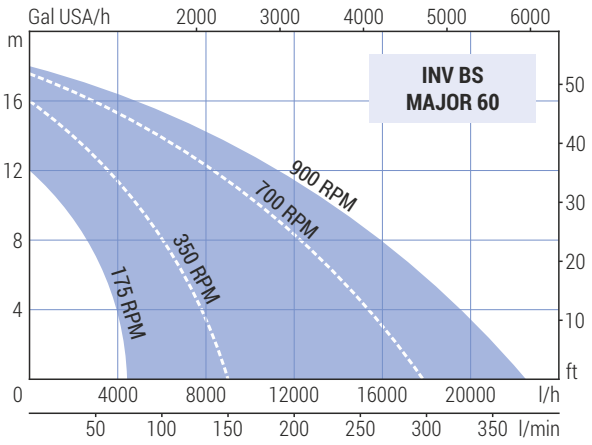
Serie
Type
INV BS

Pompe monoblocco con inverter con comandi bordo quadro
Mono-block pumps with frequency converter and controls on main panel

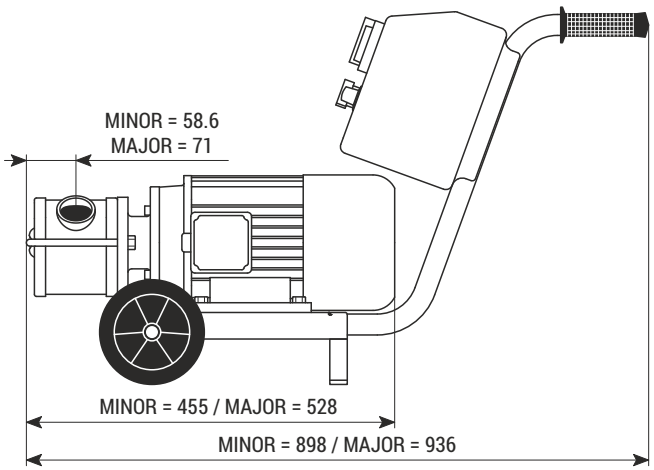
INV BS MINOR 40
INV BS MAJOR 60
motore servoventilato, inverter 4 kW
senza stop a secco, con carrello
servo fan motor, 4kW frequency converter
without dry running protection, on trolley

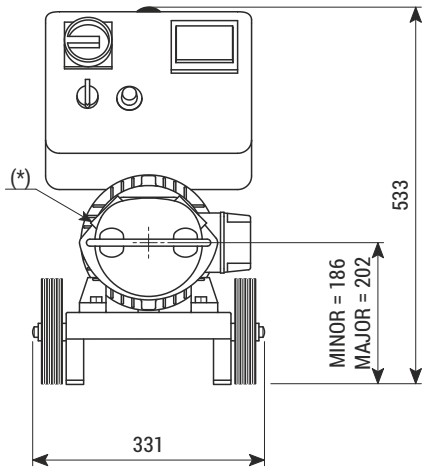
Tipo Type	Alimentazione Feeding	kW	Giri/min RPM	H = Prevalenza (metri) / Head (meters) 0	4	8	12	16	18	20	24	27	30	Q = Portata (litri/ora) Capacity (liters/hour)
INV BS MINOR 40	Trifase Three-phase 400V / 50Hz	1.5	min 175	1320	0									
			350	2750	2500	2100	1600	800	0					
			700	5000	4700	4300	3700	3000	2520	1800	0			
			900	6900	6200	5760	5040	4200	3660	3200	1800	0		
			max 1400	10000	9000	8000	6900	5500	4900	4400	2600	1700	0	
INV BS MAJOR 60	Trifase Three-phase 400V / 50Hz	1.85	min 175	4320	3840	2800	0							
			350	9000	7800	6000	3700	0						
			700	18000	15000	12000	8400	2500	0					
			max 900	22500	19560	15000	11220	3000	0					





INV BS MINOR 40
Peso-Weight 31.0 kg
INV BS MAJOR 60
Peso-Weight 43.5 kg





* raccordi disponibili p.21 / available pipe fittings p.21

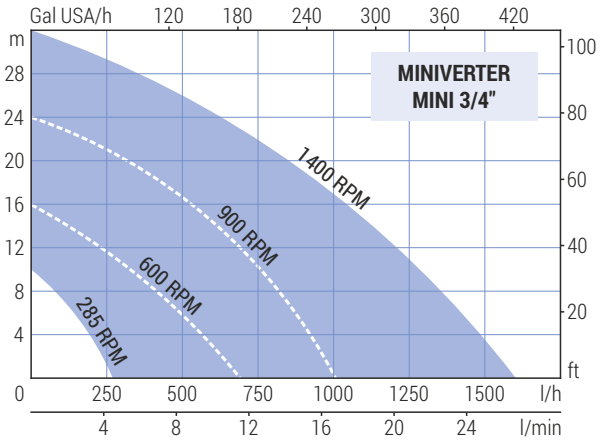
Serie
Type
MINIVERTER

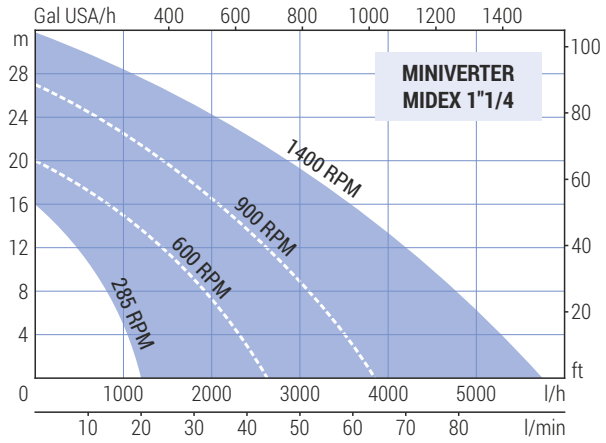
Pompe monoblocco con inverter integrato
Mono-block pumps with integrated frequency converter

MINIVERTER
MINI 3/4"

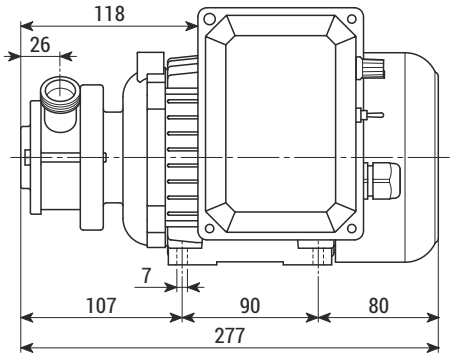
MINIVERTER
MIDEX 1"1/4
motore servoventilato
servo fan motor

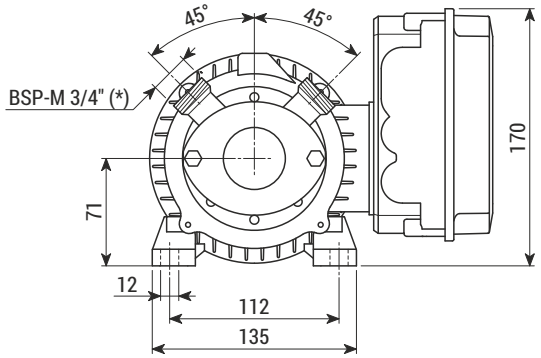
Tipo Type	Alimentazione Feeding	kW	Giri/min RPM	H = Prevalenza (metri) / Head (meters) 0	4	8	10	12	16	20	24	27	32	Q = Portata (litri/ora) Capacity (liters/hour)
MINIVERTER MINI 3/4"	Monofase Single Phase 230V / 50Hz	0.56	min 285	270	195	75	0							
			600	700	560	390	300	150	0					
			900	1000	900	840	750	720	540	350	0			
			max 1400	1620	1440	1320	1230	1140	1020	800	600	400	0	
MINIVERTER MIDEX 1"1/4	Monofase Single Phase 230V / 50Hz	0.75	min 285	1200	970	800	690	495	0					
			600	2600	2300	2000	1690	1400	800	0				
			900	3840	3480	3180	2990	2760	2160	1600	720	0		
			max 1400	5760	5160	4800	4580	4320	3600	2800	1920	1200	0	





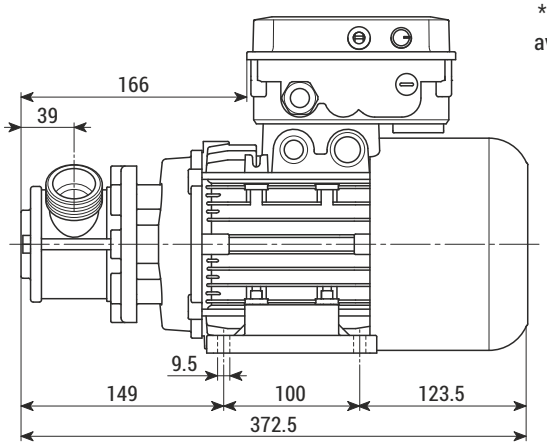
MINIVERTER
MINI 3/4"
Peso-Weight 10 kg





* raccordi disponibili p.21
available pipe fittings p.21

MINIVERTER
MIDEX 1"1/4
Peso-Weight 16 kg



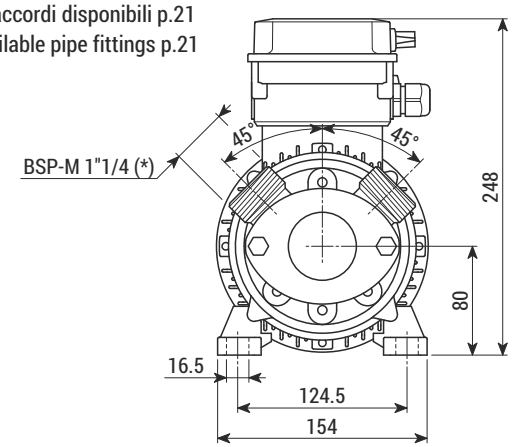


Tabella di corrosione giranti
Impeller corrosion table

Materiale Material	NBR	CR	EPDM	NR	VMQ
	Nitrile Nitrile	Neoprene Neoprene rubber	EPDM EPDM	Gomma naturale Natural rubber	Silicone Silicon

Le temperature riportate tra parentesi sono da considerarsi come temperature massime di utilizzo. La temperatura di 20° C rappresenta all'incirca la temperatura ambiente.
Il termine "Variabile" indica che all'interno della stessa famiglia di polimeri si possono avere comportamenti diversi in funzione del tipo di polimero, della concentrazione del prodotto e della temperatura di utilizzo.

Temperatures reported in parentheses must be considered the highest temperatures that can be used. The temperature of 20° C corresponds to an average room temperature.
The term "Variable" means that within the same family of polymers there can be different behaviours according to the kind of polymer, the concentration of the product and the temperature at which it is used.

Caratteristica Characteristic	**A** Ottimo Excellent	**B** Discreto/Buono Fair/Good	**C** Sconsigliato/Scarso Not advisable/Poor	**V** Variabile Variable	**Nd** Non disponibile Not available

Prodotto	NBR	EPDM	CR	NR	VMQ
Acetato di etile	C	A (55° C) - C (70° C)	C	C	B (20° C)
Aceto	B (20° C) - V (60° C)	A (60°-90° C)	B (90° C)	B (20° C)	A (20° C)
Acido Acetico (30%)	B (20° C)	A	B (20° C)	B (20° C)	Nd
Acido Borico	A (60° C) - B (90° C)	A (60° C) - B (90° C)	A (70° C) - B (90° C)	A (20° C) - B (85° C)	A (20° C)
Acido Bromico (40%)	C	A (90° C)	V	B (20° C)	C
Acido Cianidrico	B (60° C)	A (60° C)	V	Nd	B (20° C)
Acido Citrico	A (70° C) - B (80° C)	A	A	A (20° C)	A (20° C)
Acido Cloridrico concentrato	C	C	C	V	C
Acido Cloroacetico	C	B (70°-90° C)	A (20° C) - C (40° C)	V	V
Acido Cromico	C	B	V	V	V
Acido Fluoridrico (50%)	C	B (60° C)	V	C (20° C)	V
Acido Fluoridrico concentrato	C	C	C	C	C
Acido Fluoroborico	A (60° C) - B (85° C)	A (60° C) - B (80° C)	A (60° C) - B (85° C)	A (20° C) - B (65° C)	A (20° C)
Acido Formico	V	A (90° C)	V	B (20° C)	B (20° C)
Acido Fosforico (85%)	C	A (80° C)	A (40° C)	B (65° C)	C
Acido Lattico concentrato	A (20° C)	A (60° C)	A (20° C) - B (60° C) C (80° C)	Nd	Nd
Acido Nitrico (10%)	C	A (40° C) - C (80° C)	C (40° C)	C	B (20° C)
Acido Nitrico (70%)	Nd	C	C	C	C
Acido Ossalico concentrato	B (60° C)	A (100° C)	B (60° C)	B (20° C)	B (20° C)
Acido Palmitico	A (70° C)	B (20° C)	B (20-70° C)	B (20° C)	C
Acido Picrico	C	A (20° C)	B (20° C)	C	C
Acido Picrico (10%)	B (70° C)	B (90° C)	A (20° C) - C (40° C)	B (20° C)	C

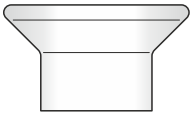
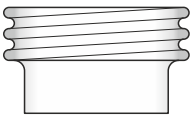
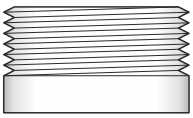
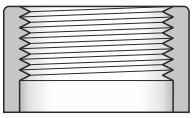
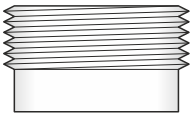
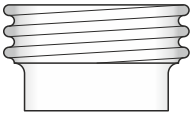
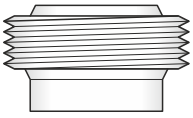
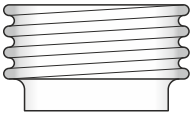
Prodotto	NBR	EPDM	CR	NR	VMQ
Acido Solforico (50%)	A (20° C) - C (80° C)	B (60-80° C)	B (70° C)	B (26° C)	V
Acido Solforico (80%)	B (40° C)-C (60-80° C)	A (60° C) - C (80° C)	C	C	C
Acido Stearico	A (80° C)	B (60° C)	B (60-70° C)	V	B (20° C)
Acqua	A (80° C)	A (100° C)	B (80° C)	A (20° C) - B (80° C)	B (80° C)
Alcol Benzilico	C	B (40° C) - C (60° C)	V	C	Nd
Alcol Etilico	A (60° C) - B (85° C)	A (90° C)	A (70° C) - B (80° C)	A (20° C) - B (65° C)	B (20° C)
Alcol Metilico	B (65° C)	A (70° C) - B (80° C)	A (60° C) - B (80° C)	B (37° C)	A (70° C)
Alcol Propilico	B (80° C)	B (90° C)	A (60° C) - B (90° C)	A (20° C) - B (65° C)	A (20° C)
Ammonio Idrato conc. (38%)	A (80° C)	Nd	A (90° C)	A (65° C)	Nd
Anidride Solforosa	C	C (20° C)	C (20° C)	C	A (20° C)
Anilina	C	A (90° C)	C	C	B (20° C)
Benzina	A (80° C)	C	C	C	C
Birra	A (60° C) - B (80° C)	A (60° C) - B (80° C)	A (60° C)	A (20° C)	A (20° C)
Bromo gas	C	C	C	C	C
Burro	A (60° C)	A (60° C)	B (20° C) - C (60° C)	C	B (20° C)
Butadiene	V	V	V	C	C
Butano	A (90° C) - B (80° C)	C	A (60° C)	C	C
Calcio Idrato	A (20° C) - B (90° C)	A (20° C)	A (20° C) - B (90° C)	A (20° C) - B (65° C)	A (20° C)
Calcio Ipoclorito	C	A (120° C)	C	C	B (20° C)
Cherosene	A (80° C)	C	B (20° C)	C	C
Cloro Umido	C	V	C	C	C
Cloroformio	C	C	C	C	C
Gelatina	A (70° C)	A (80° C)	A (60° C) - B (80° C)	A (20° C) - B (65° C)	A (20° C)
Glicerina	A (80° C)	A (80° C) - B (90° C)	A (70° C)	A (20° C) - B (65° C)	A (20° C)
Glucosio	A (70° C)	A (80° C)	A (60° C)	A (20° C) - B (48° C)	A (20° C)
Iodio	B (60° C) A (20° C) 6.5%	B (70° C) A (20° C) 6.5%	C	C	C
Latte	A (60° C)	A (100° C)	A (60° C)	A (20° C) - B (37° C)	A (20° C)
Magnesio Cloruro	A (70° C) - B (80° C)	A (80° C) - B (100° C)	A (80° C) - B (90° C)	A (20° C) - B (85° C)	A (20° C)
Magnesio Solfato	A (80° C) - B (100° C)	A (80° C) - B (100° C)	A (80° C) - B (90° C)	B (85° C)	A (20° C)
Mercurio	A (60° C)	A (60° C)	A (60° C)	A (20° C)	A (20° C)
Metiletilchetone	C	A (60° C) - B (90° C)	C	C	C
Nafta	A (80° C)	C	C	C	C
Olio di Anilina	C	B (20° C)	C	C	C
Olio di Cotone	A (70° C) - B (80° C)	A (20° C) - B (80° C)	B (65° C)	C	A (20° C)
Olio di fegato di merluzzo	A (20° C) - B (50° C)	A (20° C)	B (20° C)	C	B (20° C)
Olio di Granoturco	A (80° C)	V	B (20° C)	C	A (20° C)
Olio di Lino	A (80° C)	B (20° C)	B (80° C)	C	C
Olio di Oliva	A (80° C)	B (20° C)	V	C	V
Olio di Pino	B (80° C)	C	C	C	C
Olio di Ricino	A (70° C)	A (60° C)	A (70° C)	A (25° C)	A (20° C)
Olio di Soia	A (80° C)	V	B (20° C)	C	C
Olio Idraulico (esteri fosforici)	C	A (100° C)	C	C	V
Olio SAE n.10	A (80° C)	C	V	C	V
Olio Vegetale	A (70° C)	V	C (20° C)	C	A (20° C)
Paraffina	A (60° C)	C	B (20° C)	V	C
Percloroetilene	V	C	C	C	V
Sodio Cloruro	A (70° C)	B (90° C)	A (80° C)	A (65° C)	B

Product	NBR	EPDM	CR	NR	VMQ
Hydrochloric acid (conc.)	C	C	C	V	C
Hydrocyanic acid	B (60° C)	A (60° C)	V	Nd	B (20° C)
Hydrofluoric acid (50%)	C	B (60° C)	V	C (20° C)	V
Hydrofluoric acid (conc.)	C	C	C	C	C
Iodine	B (60° C) A (20° C) 6.5%	B (70° C) A (20° C) 6.5%	C	C	C
Kerosene	A (80° C)	C	B (20° C)	C	C
Lactic acid (conc.)	A (20° C)	A (60° C)	A (20° C) - B (60° C) C (80° C)	Nd	Nd
Linseed oil	A (80° C)	B (20° C)	B (20° C)	C	C
Magnesium chloride	A (70° C) - B (80° C)	A (80° C) - B (100° C)	A (80° C) - B (90° C)	A (20° C) - B (85° C)	A (20° C)
Magnesium sulphate	A (80° C) - B (100° C)	A (80° C) - B (100° C)	A (80° C) - B (90° C)	B (85° C)	A (20° C)
Mercury	A (60° C)	A (60° C)	A (60° C)	A (20° C)	A (20° C)
Methyl alcohol	B (65° C)	A (70° C) - B (80° C)	A (60° C) - B (80° C)	B (37° C)	A (70° C)
Methyl-ethyl-ketone	C	A (60° C) - B (90° C)	C	C	C
Milk	A (60° C)	A (100° C)	A (60° C)	A (20° C) - B (37° C)	A (20° C)
Nitric acid (10%)	C	A (40° C) - C (80° C)	C (40° C)	C	B (20° C)
Nitric acid (70%)	Nd	C	C	C	C
Olive oil	A (80° C)	B (20° C)	V	C	V
Oxalic acid (conc.)	B (60° C)	A (100° C)	B (60° C)	B (20° C)	B (20° C)
Palmitic acid	A (70° C)	B (20° C)	B (20-70° C)	B (20° C)	C
Paraffin	A (60° C)	C	B (20° C)	V	C
Perchloroethylen	V	C	C	C	V
Petrol	A (80° C)	C	C	C	C
Phosphoric acid (85%)	C	A (80° C)	A (40° C)	B (65° C)	C
Picric acid	C	A (20° C)	B (20° C)	C	C
Picric acid (10%)	B (70° C)	B (90° C)	A (20° C) - C (40° C)	B (20° C)	C
Pine oil	B (80° C)	C	C	C	C
Propylic alcohol	B (80° C)	B (90° C)	A (60° C) - B (90° C)	A (20° C) - B (65° C)	A (20° C)
SAE n.10 oil	A (80° C)	C	V	C	V
Sodium chloride	A (70° C)	B (90° C)	A (80° C)	A (65° C)	B
Sodium hydrate	B (65° C)	A (20° C)	B (90° C)	A (20° C) - B (65° C)	C (20° C)
Soybean oil	A (80° C)	V	B (20° C)	C	C
Stearic acid	A (80° C)	B (60° C)	B (60-70° C)	V	B (20° C)
Sulphur (fused 120° C)	C	A (100° C)	A (20° C)	C (20° C)	A (20° C) - C (120° C)
Sulphur dioxide	C	C (20° C)	C (20° C)	C	A (20° C)
Sulphuric acid (50%)	A (20° C) - C (80° C)	B (60-80° C)	B (70° C)	B (26° C)	V
Sulphuric acid (80%)	B (40° C)-C (60-80° C)	A (60° C) - C (80° C)	C	C	C
Toluol	C	C	C	C	C
Tomatoes juices	A (60° C)	A (80° C)	A (60° C)	Nd	Nd
Trichloroethylene	C	C	C	C	C
Triethanolamine	C (20° C) 100% B (37° C) 80%	A (70° C)	A (70° C)	B (26° C)	C
Vegetable oil	A (70° C)	V	C (20° C)	C	A (20° C)
Vinegar	B (20° C) - V (60° C)	A (60°-90° C)	B (90° C)	B (20° C)	A (20° C)
Water	A (80° C)	A (100° C)	B (80° C)	A (20° C) - B (80° C)	B (80° C)
Whisky	A (90° C)	A (90° C)	A (60° C) - C (90° C)	A (20° C) - B (65° C)	A (20° C)
Wine	A (90° C)	A (90° C)	A (90° C)	A (20° C) - B (65° C)	A (20° C)
Xylol	C	C	C	C	C

Prodotto	NBR	EPDM	CR	NR	VMQ
Sodio Idrato	B (65° C)	A (20° C)	B (90° C)	A (20° C) - B (65° C)	C (20° C)
Succo di frutta	A (60° C)	A (100° C)	A (60° C)	V	A (20° C)
Succo di pomodoro	A (60° C)	A (80° C)	A (60° C)	*Nd*	*Nd*
Toluolo	C	C	C	C	C
Tricloroetilene	C	C	C	C	C
Trietanoloammina	C (20° C) 100% B (37° C) 80%	A (70° C)	A (70° C)	B (26° C)	C
Vino	A (90° C)	A (90° C)	A (90° C)	A (20° C) - B (65° C)	A (20° C)
Whisky	A (90° C)	A (90° C)	A (60° C) - C (90° C)	A (20° C) - B (65° C)	A (20° C)
Xilolo	C	C	C	C	C
Zolfo fuso 120° C	C	A (100° C)	A (20° C)	C (20° C)	A (20° C) - C (120° C)
Zucchero di canna	A (60° C) - B (90° C)	A (80° C)	A (20° C) - B (90° C)	A (20° C)	A (20° C)

Product	NBR	EPDM	CR	NR	VMQ
Acetic acid (30%)	B (20° C)	A	B (20° C)	B (20° C)	*Nd*
Ammonium hydroxide (38%)	A (80° C)	*Nd*	A (90° C)	A (65° C)	*Nd*
Aniline	C	A (90° C)	C	C	B (20° C)
Aniline oil	C	B (20° C)	C	C	C
Beer	A (60° C) - B (80° C)	A (60° C) - B (80° C)	A (60° C)	A (20° C)	A (20° C)
Benzylic alcohol	C	B (40° C) - C (60° C)	V	C	*Nd*
Boric acid	A (60° C) - B (90° C)	A (60° C) - B (90° C)	A (70° C) - B (90° C)	A (20° C) - B (85° C)	A (20° C)
Bromic acid (40%)	C	A (90° C)	V	B (20° C)	C
Butadiene	V	V	V	C	C
Butane	A (90° C) - B (80° C)	C	A (60° C)	C	C
Butter	A (60° C)	A (60° C)	B (20° C) - C (60° C)	C	B (20° C)
Calcium hydrate	A (90° C) - B (90° C)	A (20° C)	A (20° C) - B (90° C)	A (20° C) - B (65° C)	A (20° C)
Calcium hypoclorite	C	A (120° C)	C	C	B (20° C)
Cane sugar liquide	A (60° C) - B (90° C)	A (80° C)	A (20° C) - B (90° C)	A (20° C)	A (20° C)
Castor oil	A (70° C)	A (60° C)	A (70° C)	A (25° C)	A (20° C)
Chlorine (dump)	C	V	C	C	C
Chloroacetic acid	C	B (70°-90° C)	A (20° C) - C (40° C)	V	V
Chloroform	C	C	C	C	C
Chromic acid	C	B	V	V	V
Citric acid	A (70° C) - B (80° C)	A	A	A (20° C)	A (20° C)
Cod-liver oil	A (20° C) - B (50° C)	A (20° C)	B (20° C)	C	B (20° C)
Corn oil	A (80° C)	V	B (20° C)	C	A (20° C)
Cotton oil	A (70° C) - B (80° C)	A (20° C) - C (80° C)	B (65° C)	C	A (20° C)
Diesel oil	A (80° C)	C	C	C	C
Ethyl acetate	C	A (55° C) - C (70° C)	C	C	B (20° C)
Ethyl alcohol	A (60° C) - B (85° C)	A (90° C)	A (70° C) - B (80° C)	A (20° C) - B (65° C)	B (20° C)
Fluoboric acid	A (60° C) - B (85° C)	A (60° C) - B (80° C)	A (60° C) - B (85° C)	A (20° C) - B (65° C)	A (20° C)
Formic acid	V	A (90° C)	V	B (20° C)	B (20° C)
Fruit juices	A (60° C)	A (100° C)	A (60° C)	V	A (20° C)
Gelatine	A (70° C)	A (80° C)	A (60° C) - B (80° C)	A (20° C) - B (65° C)	A (20° C)
Glucose	A (70° C)	A (80° C)	A (60° C)	A (20° C) - B (48° C)	A (20° C)
Glycerine	A (80° C)	A (80° C) - B (90° C)	A (70° C)	A (20° C) - B (65° C)	A (20° C)
Hydraulic oil	C	A (100° C)	C	C	V

Raccordi
Pipe fittings

Tipo Type		MINI	MIDEX	MINOR	MAJOR	MAXI
Garolla		Non disponibile Not available	Garolla 40	Garolla 40 Garolla 50	Garolla 50 Garolla 60 Garolla 70	Garolla 70 Garolla 80 Garolla 100
DIN 11851		DIN 20 DIN 25	DIN 32 DIN 40	DIN 40 DIN 50	DIN 50 DIN 60 DIN 65	DIN 65 DIN 80 DIN 100
BSP-M		BSP-M 3/4"	BSP-M 1"1/4	BSP-M 1"1/4 BSP-M 1"1/2	BSP-M 2"	BSP-M 2"1/2 BSP-M 3"
BSP-F		Non disponibile Not available	BSP-F 1"	BSP-F 1" BSP-F 1"1/4	BSP-F 1"1/2 BSP-F 2"	BSP-F 2"1/2 BSP-F 3"
Macon		Non disponibile Not available	Macon 40	Macon 40 Macon 50	Macon 40 Macon 50	Macon 70
Triclover		Triclover 1"	Triclover 1"1/2	Triclover 1"1/2	Triclover 2"	Triclover 3"
SMS		SMS 25	SMS 38	SMS 38	SMS 51	SMS 76
BSM (RJT)		BSM 1"	BSM 1"1/2	BSM 1"1/2	BSM 2" BSM 2"1/2	BSM 3"
Friederich		Non disponibile Not available	Friederich 40	Friederich 40	Friederich 40 Friederich 60	Friederich 60

Impianto elettrico CE.
CE control panel.

Conforme CE
CE compliance

Cavo di uscita 6 m
Exit cable 6 m

Conforme IP55
IP55 compliance

Interruttore/invertitore
Reverse switch

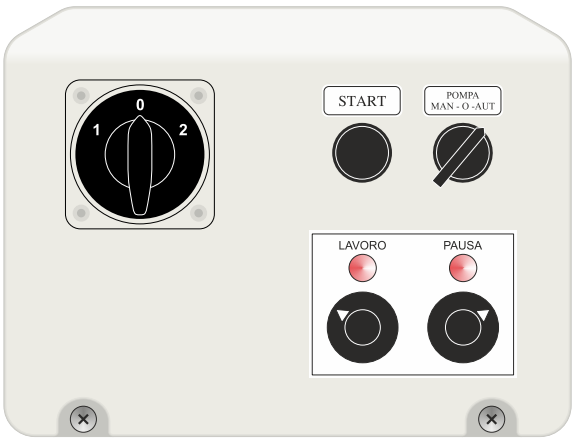
Impianto elettrico CE con derivazione supplementare 24V NC
per sensore di temperatura, pressostato, sensore di livello, ecc.
CE control panel with supplementary 24V NC shunt trip
for temperature sensor, pressure switch, level sensor, etc.

Conforme CE
CE compliance

Cavo di uscita 10 m
Exit cable 10 m

Conforme IP55
IP55 compliance

Interruttore/invertitore
Reverse switch



Impianto elettrico CE con temporizzatore con 2 selettori
12 posizioni per pausa e lavoro e con 2 range di temporizzazioni
disponibili (da specificare in caso di ordine):
tipo **LIV1** = lavoro 2-24 minuti, pausa 10-120 minuti;
tipo **LIV2** = lavoro 2-24 minuti, pausa 1-12 ore.
CE control panel with 2 selector switch timer, with 12 possible
selections each and with 2 time rate options (to be stated in
case of order):
LIV1 type = run 2-24 minutes, pause 10-120 minutes;
LIV2 type = run 2-24 minutes, pause 1-12 hours.

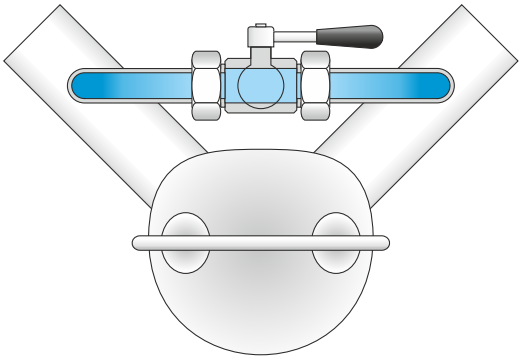
Conforme CE
CE compliance

Cavo di uscita 10 m
Exit cable 10 m

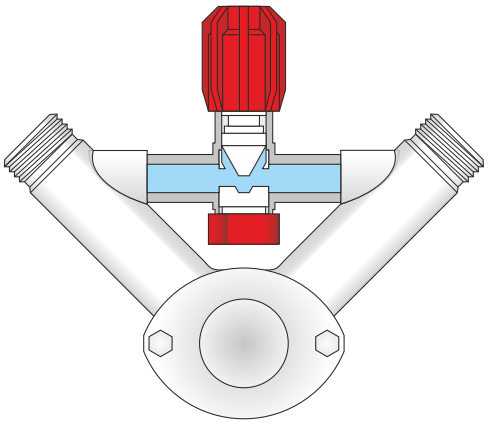
Conforme IP55
IP55 compliance

Interruttore/invertitore
Reverse switch

Accessori
Accessories



By-pass con valvola a sfera per i modelli: Mini, Major, Maxi.
Ball bypass valve for pump types: Mini, Major, Maxi.



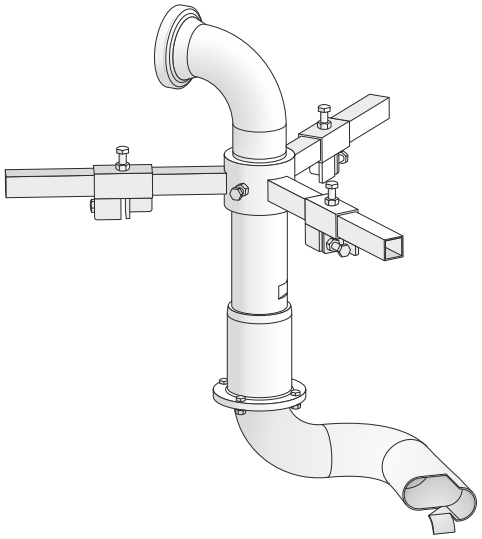
By-pass con valvola a molla per i modelli: Midex e Minor.
Spring bypass valve for pump types: Midex and Minor.

Kit riempi barriques o fusti:
Pistola automatica inox con valvola di non ritorno e pressostato.

Il kit può essere utilizzato solo con quadro elettrico del tipo con derivazione supplementare 24V NC. In caso di pompa con inverter quest'ultimo deve essere dotato di derivazione supplementare NC.

Kit for barrel filling:
Stainless steel automatic gun with no return valve and pressure switch.

The kit must be used only with a control panel with a supplementary 24V NC shunt trip. In case of pump driven by frequency converter, the last must be fitted with a supplementary NC trip.



Irroratore centrifugo serie IRR LIVERANI:
- sistema di fissaggio standard per chiusino da 400 mm
- a richiesta sistema di fissaggio per chiusini di dimensioni superiori

Centrifugal sprinkler LIVERANI IRR type:
- standard fastening system for 400 mm manways
- on request fasteing system for larger manways.

Carenatura inox per elettropompe.
Inox cover for electric pumps.

A richiesta l'assemblaggio può essere effettuato con:

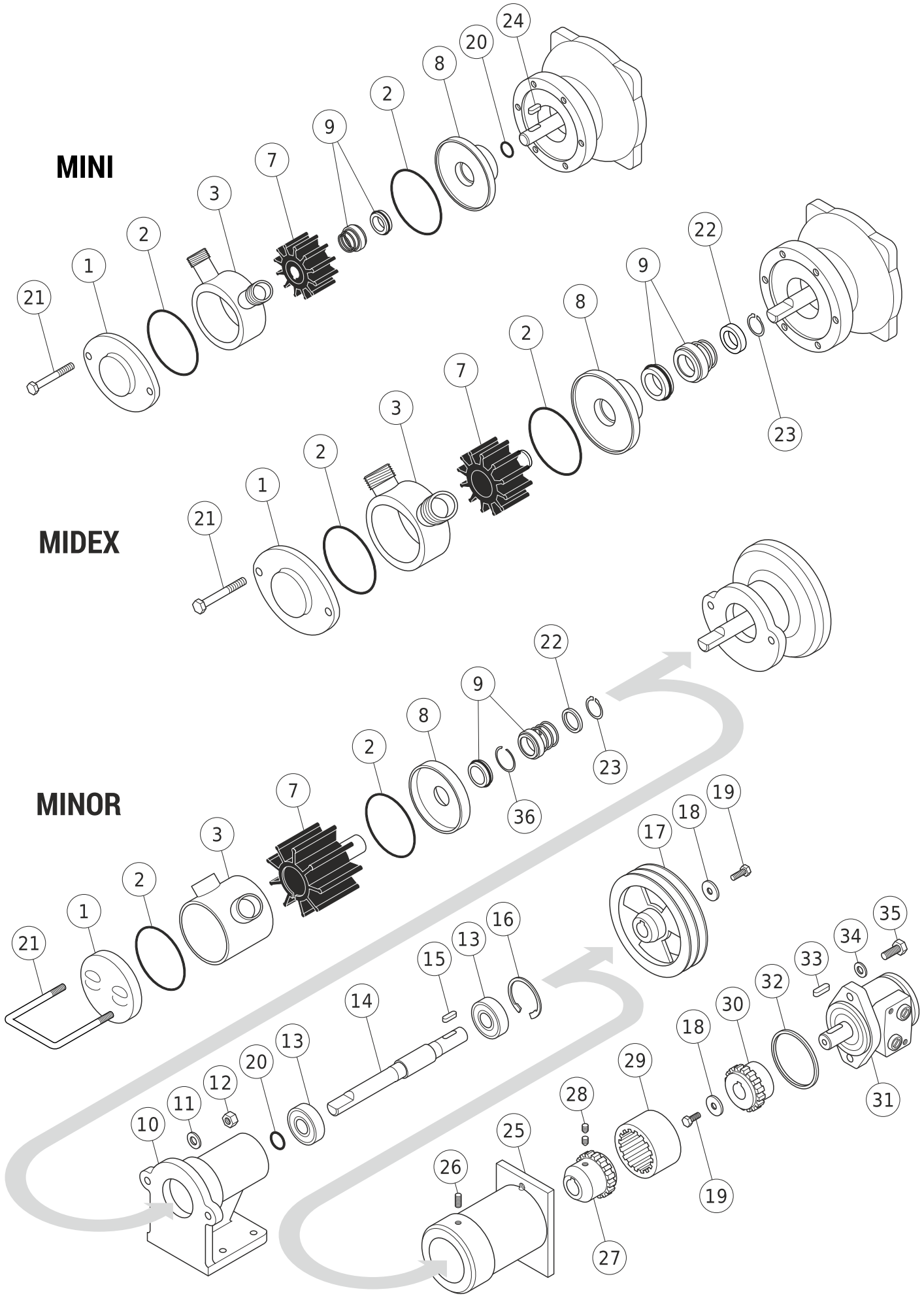
> Carrello inox;
> Con ruote in Poliammide bianche;
> Impianto elettrico con invertitore standard montato sul manico;
> Uscite sanitarie (DIN, SMS, TRICLAMP, BSM/RJT).

On request equipped with:

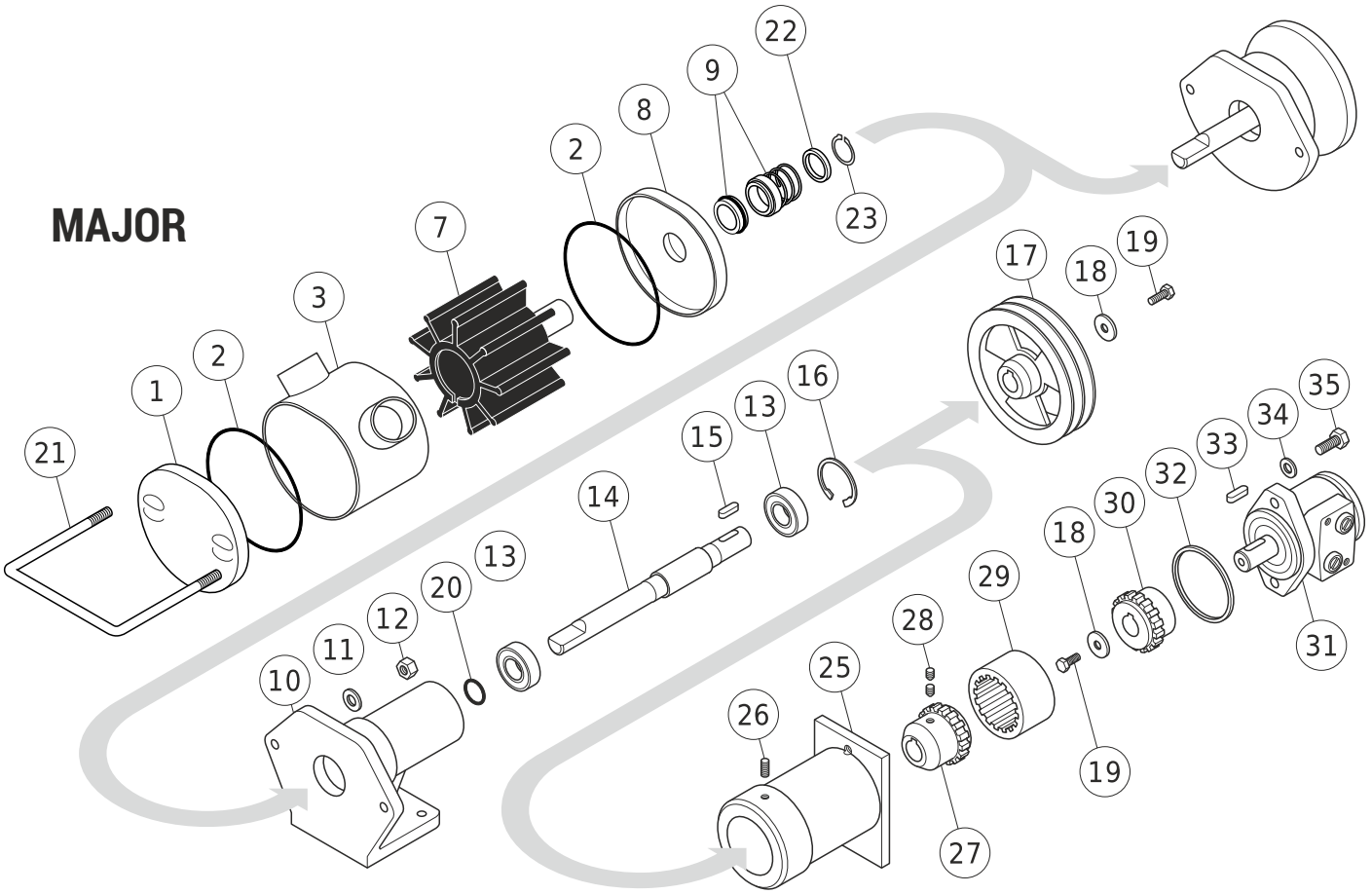
> Stainless steel trolley;
> With Polyamide white wheels;
> Standard control panel with reverser switch;
> Sanitary inlet/outlet (DIN, SMS, TRICLAMP, BSM/RJT).

Componenti
Spare parts

Pos.	Descrizione Description	Materiale Material	MINI	MIDEX	MINOR	MAJOR	MAXI
1	Culatta anteriore / Front cover	Acciaio Inox AISI 304 / Stainless Steel AISI 304			●	●	●
		Acciaio Inox AISI 316 / Stainless Steel AISI 316	●	●			
2	Anello OR culatta / O ring cover	Gomma NBR / Rubber (NBR)	●	●	●	●	●
3	Corpo pompa / Casing	Acciaio Inox AISI 304 / Stainless Steel AISI 304			●	●	●
		Acciaio Inox AISI 316 / Stainless Steel AISI 316	●	●			
7	Girante / Impeller	Gomma Naturale (NR) / Natural Rubber (NR)	●	●	●	●	●
		Neoprene (CR) / Neoprene Rubber (CR)	●	●	●	●	●
		Nitrile (NBR) / Nitrile (NBR)	●	●	●	●	●
		EPDM / EPDM	●	●	●	●	●
		Silicone (VMQ) / Silicon (VMQ)			●	●	●
8	Culatta posteriore / Rear cover	Acciaio Inox AISI 304 / Stainless Steel AISI 304			●	●	●
		Acciaio Inox AISI 316 / Stainless Steel AISI 316	●	●			
9	Tenuta meccanica / Mechanical gasket	Inox-Grafite-NBR / Stainless Steel-Graphite-NBR	●	●	●	●	●
		Carburo di Tungsteno-NBR / Tungsten Carbide-NBR	●	●	●	●	●
		Carburo di Tungsteno-Viton / Tungsten Carbide-Viton	●	●	●	●	●
		Carburo di Silicio-Carburo di Silicio-EPDM / SIC-SIC-EPDM	●	●	●	●	●
10	Supporto tipo S/P / Support S/P type	Alluminio / Aluminium			●	●	●
	Supporto tipo MID / Support MID type	Alluminio / Aluminium			●	●	●
11	Rondella / Washer	Acciaio Inox AISI 304 / Stainless Steel AISI 304			●	●	●
12	Dado / Nut	Ottone cromato / Chromate brass			●	●	●
13	Cuscinetto / Ball bearing	Commerciale / Commercial			●	●	●
14	Albero / Shaft	Acciaio Inox AISI 420 / Stainless Steel AISI 420			●	●	●
15	Chiavetta / Flat key	Acciaio Inox AISI 304 / Stainless Steel AISI 304			●	●	●
16	Anello Seeger / Seeger ring	Acciaio / Steel			●	●	●
17	Puleggia / Pulley	Alluminio / Aluminium			●	●	●
18	Rondella / Washer	Acciaio Inox AISI 304 / Stainless Steel AISI 304			●	●	●
19	Vite / Bolt	Acciaio Inox AISI 304 / Stainless Steel AISI 304			●	●	●
20	Anello protezione albero / Guard ring	Gomma NBR / Rubber (NBR)	●		●	●	
21	Cavallotto / U-Bolt	Acciaio Inox AISI 304 / Stainless Steel AISI 304			●	●	●
	Vite / Bolt	Acciaio Inox AISI 304 / Stainless Steel AISI 304	●	●			
22	Cavallotto / U-Bolt	Acciaio Inox AISI 304 / Stainless Steel AISI 304					●
	Anello distanziale / Spacing ring	Acciaio Inox AISI 304 / Stainless Steel AISI 304		●	●	●	
23	Anello Seeger / Seeger ring	Acciaio Inox AISI 304 / Stainless Steel AISI 304		●	●	●	
	Cuscinetto / Ball bearing	Commerciale / Commercial					●
24	Chiavetta / Flat key	Acciaio Inox AISI 304 / Stainless Steel AISI 304	●				
25	Flangia tipo MID / MID flange	Alluminio / Aluminium			●	●	●
26	Vite / Bolt	Acciaio / Steel			●	●	●
27	Giunto pompa / Pump coupling	Acciaio / Steel			●	●	●
28	Vite / Bolt	Acciaio / Steel			●	●	●
29	Manicotto di collegamento / Box coupling	Nylon / Nylon			●	●	●
30	Giunto motore / Motor coupling	Acciaio / Steel			●	●	●
31	Motore orbitale / Orbital motor	Commerciale / Commercial			●	●	●
32	Anello di centraggio / Center ring	Acciaio Inox AISI 304 / Stainless Steel AISI 304			●	●	●
33	Chiavetta / Flat key	Acciaio / Steel			●	●	●
34	Rondella / Washer	Acciaio Inox AISI 304 / Stainless Steel AISI 304			●	●	●
35	Vite / Bolt	Acciaio Inox AISI 304 / Stainless Steel AISI 304			●	●	●
36	Anello Seeger SB 50 int. / Seeger ring SB 50 int.	Acciaio / Steel			●		


MINI
MIDEX
MINOR

MAJOR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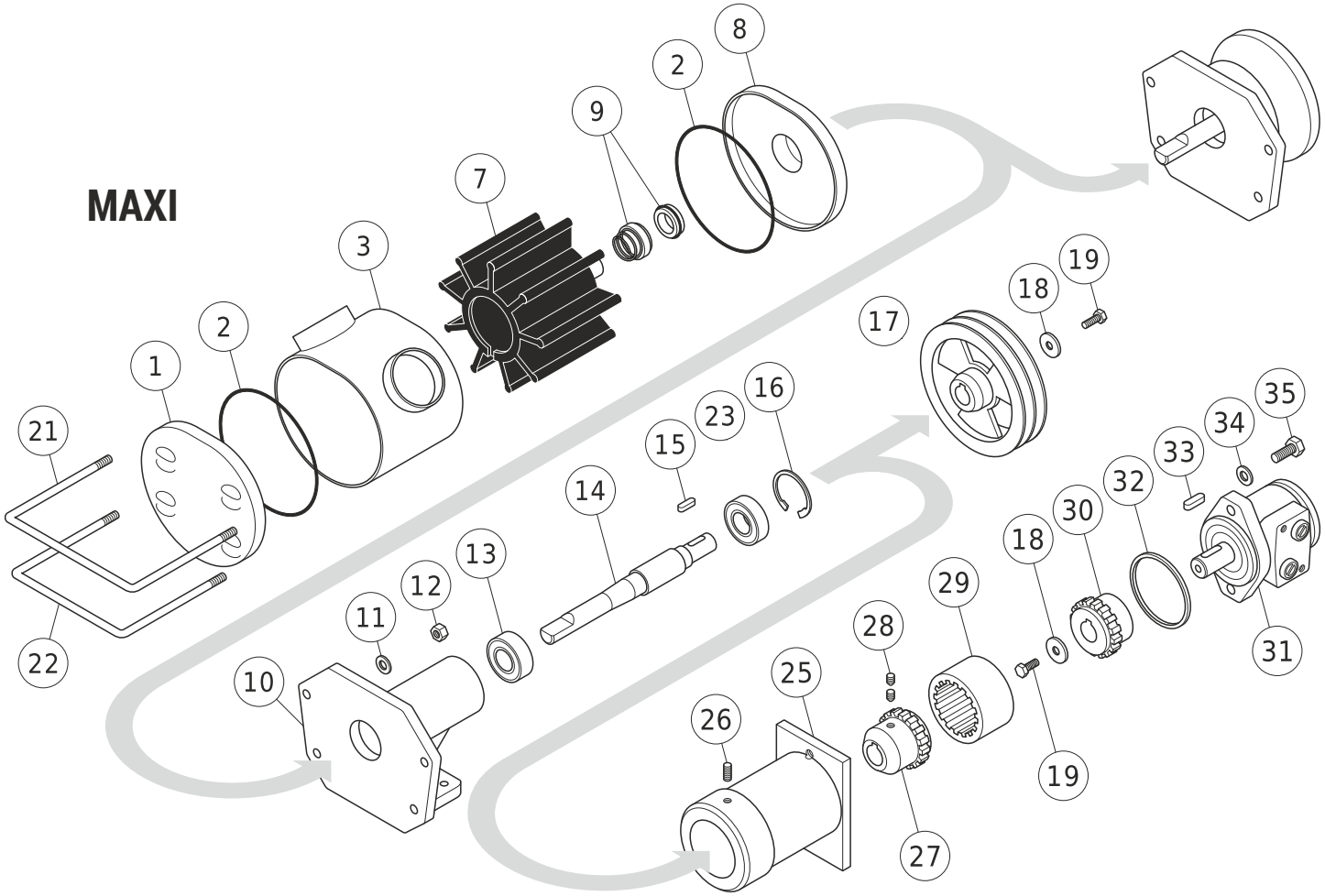
MAXI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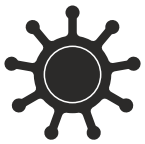
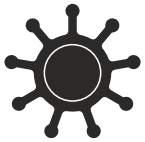
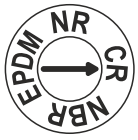
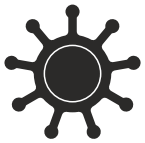
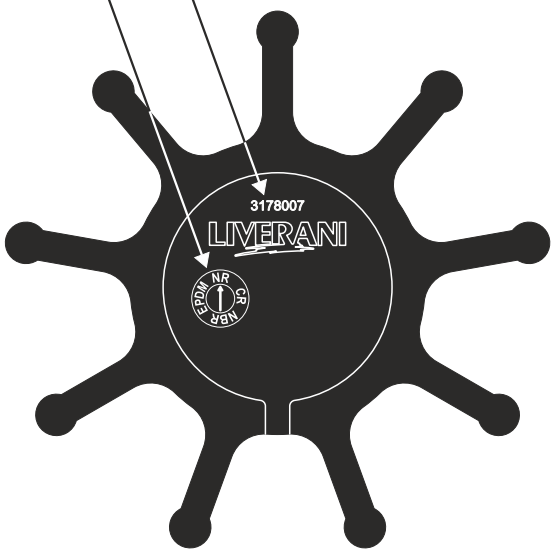
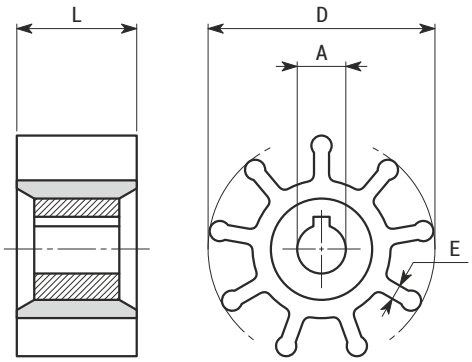
Identificazione e dimensione della girante
Identification and Impeller dimensions

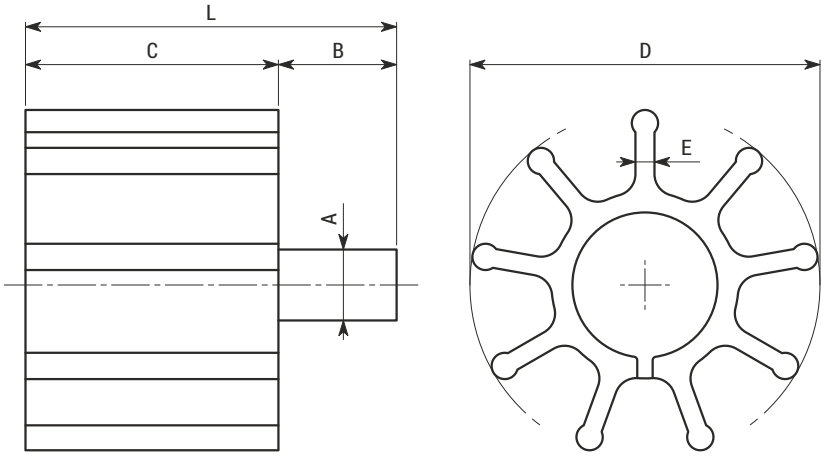
Riferimento materiale girante Impeller's material reference		
		**NBR** Nitrile Nitrile
		**CR** Neoprene Neoprene rubber
		**EPDM** EPDM EPDM
		**NR** Gomma naturale Natural rubber
		**VMQ** Silicone Silicon

Riferimento pompa Pump reference	
MINI 3/4"	n.d. / n.a.
MIDEX 1"1/4	3173007
MINOR 40	3174007
MAJOR 60	3176007
MAXI 80	3178007



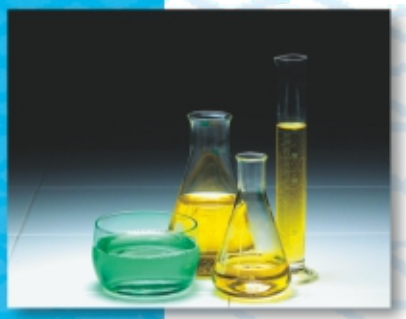


MINI 3/4"



MIDEX 1"1/4 - MINOR 40 - MAJOR 60 - MAXI 80

Tipo Type	Dimensioni (mm) / Dimensions (mm)						Nr. pale Nr. blades
	A	B	C	D	E	L	
MINI 3/4"	Ø 12	-	29.6	Ø 56	4	29.6	8
MIDEX 1"1/4	Ø 24.9	35	52	Ø 66	5	87	8
MINOR 40	Ø 25	35	87	Ø 96	6	122	9
MAJOR 60	Ø 30	56.5	107	Ø 146.5	7	163.5	9
MAXI 80	Ø 30	44	144	Ø 194	10	188	9



LIVERANI

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