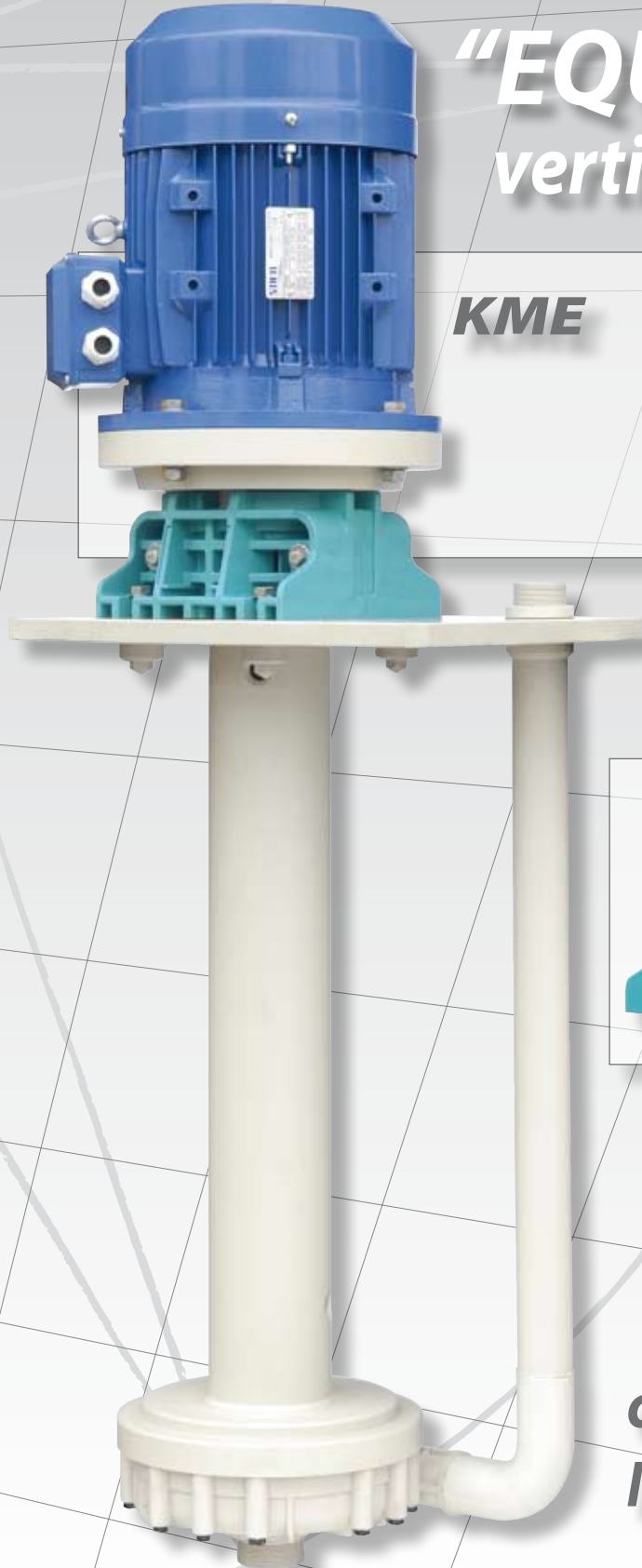


60Hz

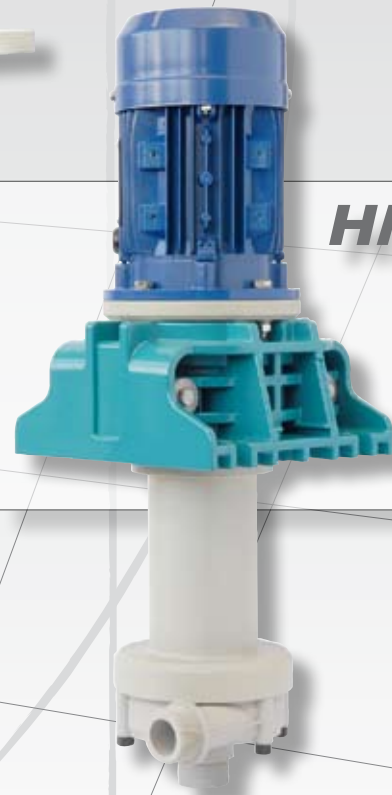
# ARGAL

CHEMICAL PUMPS

**"EQUIPRO"**  
vertical pumps



**KME**



**HME**

**close-coupled  
IEC or Nema motors**

**Equipro**

The pumps of this range (original Argal product) are made in thermoplastic technopolymers; they are close-coupled, vertical axis, with axial hydraulic suction connection, directed downward, and tangential outlet either free or connected to vertical outlet piping. They are specifically designed for pumping corrosive liquids, with particular constructive solutions to guarantee time-life and functionality.

There are no metal parts in direct contact with the pumped liquid; where the pump is connected with the motor there is no need of sealing system against leakage of liquids; only a device of vapour sealing in static and dynamic conditions is applied.

The innovative design of the base bracket, which is composed of two parts, allows wide access to the coupling joint of the standard electric motor in order to ease maintenance operations.

For each pump model, three different electric motor powers can be installed for pumping liquids with different specific gravities (N-P-S version, respectively for specific gravities from 1.1 to 1.35 - 1.8), even at maximum flow.

They differ in two series denominated KME and HME.

KME, with varying lengths from 600 to 1500mm of the immersed parts; they are pumps with the shaft guided by a sliding bearing, hosted at the backside of the impeller and formed by fixed and rotating bushings in appropriate chemical-resistant, wear-resistant and anti-abrasive materials.

HME, having fixed lengths of 275 or 450mm, are designed with a cantilevered shaft, with no lower guide and permits use in applications with fluids with the presence of crystalline particles and with the ability of running dry without failure.



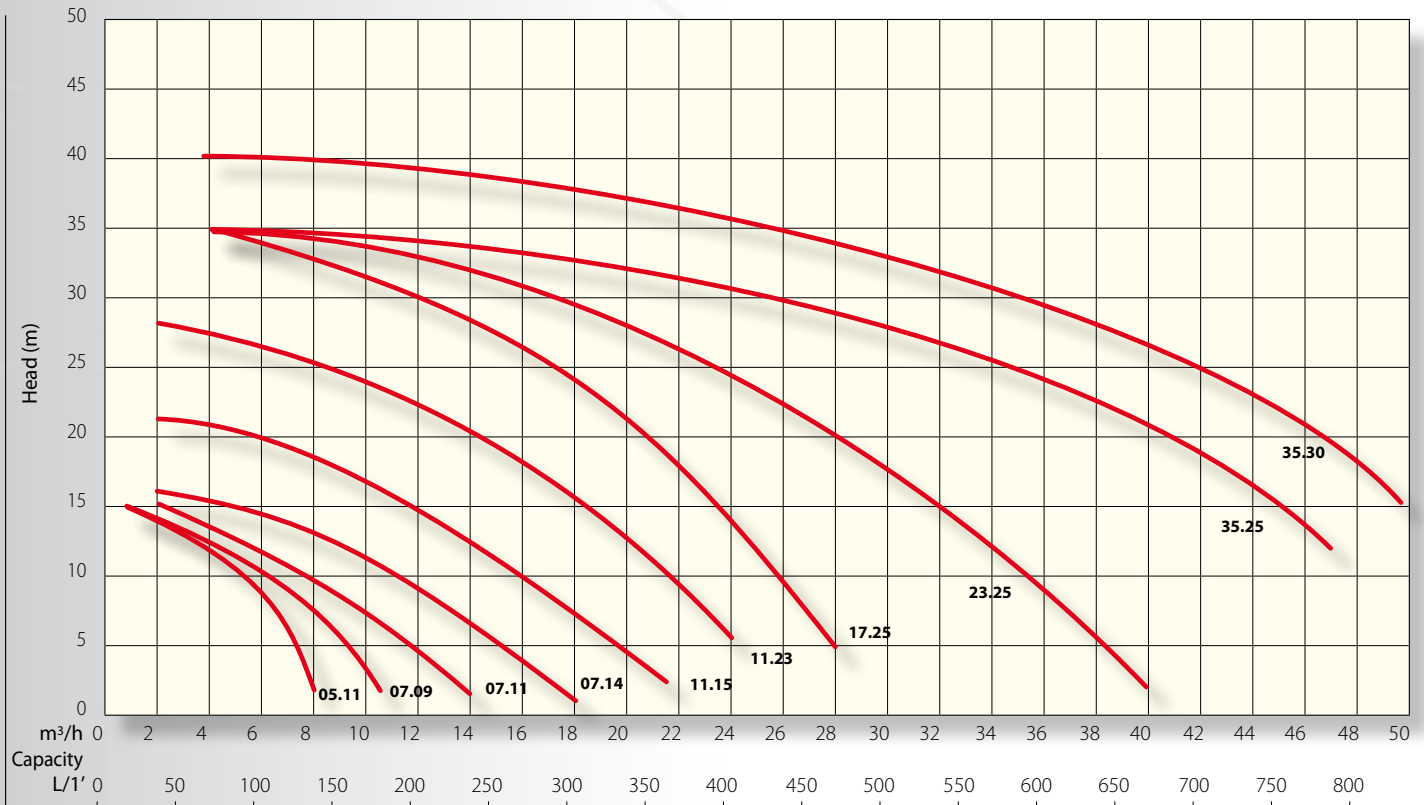
Argal operates with ISO 9001:2000 Quality System certified by SQS-IQNet.



HME serie, cantilevered

KME serie

**General Performance Curve 3500 r.p.m. - 60Hz**



NOTES: All curves are referred to: water at 20°C - viscosity 1 °E - specific gravity 1 kg/dm³ pt

LABELS IN THIS CATALOG	
<b>GFR/PP</b>	Glass fibre reinforced Polypropylene
<b>CFF / PVDF</b>	Vinylidene Polyfluoride carbon fibre filled
<b>PP</b>	Polypropylene
<b>PVDF</b>	Vinylidene Polyfluoride
<b>E-CTFE</b>	Etylene-Chloro Trifluoro Ethylene
<b>PTFE</b>	Polytetrafluoroethylene
<b>Al<sub>2</sub>O<sub>3</sub></b>	Alumina ceramic at 99,7%
<b>SiC</b>	Silicon Carbide
<b>FKM</b>	Fluorine elastomer
<b>EPDM</b>	Ethylene-Propylene rubber

**THE CONSTRUCTIONS**

table 1

VERSION	WR	FC
Volute casing	GFR/PP	CFF/PVDF
Impeller		E-CTFE
Support		GFR/PP
Baseplate		PP
Shaft	Steel	
Shaft coating	PP	PTFE
Submerged column		PVDF
Gasket	FKM/EPDM	
Submerged screws	PVDF	
Screws	Stainless steel	

**TECHNICAL DATA**

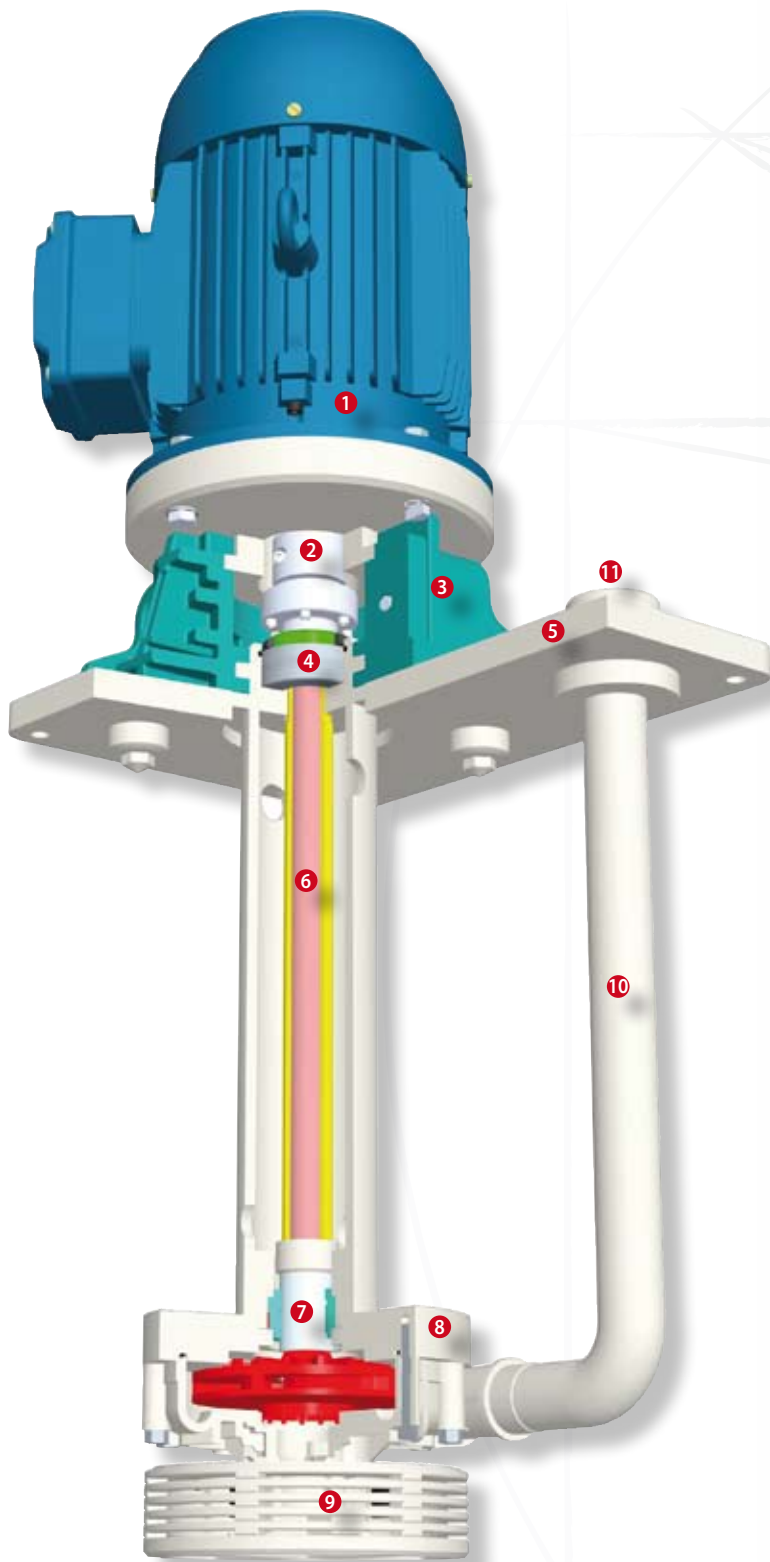
table 2

	MAX WORK TEMPERATURE °C						
	HME			KME			
Under plate lenght (mm)	275	450	600	800	1000	1250	1500
Version / Serie	HME			KME			
<b>WR</b>	70			65	55	50	
<b>FC</b>	90			85	75	65	
	ADMITTED ENVIRONMENTAL TEMPERATURE RANGE °C						
	0 ÷ +40						
<b>FC</b>	-10 ÷ +40					0 ÷ +40	

**MOTOR SPECIFICATIONS**

table 3

		05.11		07.09			07.11			07.14			11.15			11.23			17.25			23.25			35.25			35.30			
		N	P	S	N	P	S	N	P	S	N	P	S	N	P	S	N	P	S	N	P	S	N	P	S	N	P	S			
Power	kW	0.37	0.55	0.75	0.55	0.75	1.1	0.75	1.1	1.5	1.1	1.5	2.2	1.5	2.2	3	2.2	3	4	4	5.5	/	4	5.5	/	5.5	7.5	/	7.5		
Motor size	IEC	71A	71B	80A	71B	80A	80B	80A	80B	90S	80B	90S	90L	90S	90L	100	90L	100	112	112	132SA	/	112	132SA	/	132SA	132SB	/	132SB		
Phase	n°	3phase (all models) - 1phase (<3 kW)																													
Std. voltage	V	460 ± 10% 60 Hz - 230 ± 10% 60 Hz																													
Motor protection	IP	55																													



**KME** - Constructed for fixed installations with the pump body immersed in basins, tanks, collecting wells, reservoirs. Fluids with a specific gravity of 2 kg/dm<sup>3</sup> can be handled in function of installed power, with a kinematic viscosity max. of 75 cSt and temperatures as detailed in the table 2

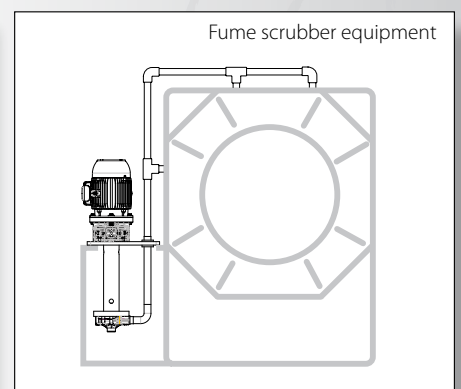
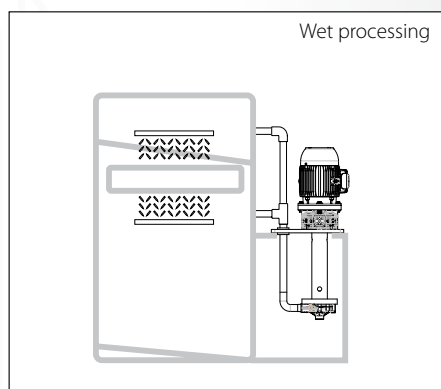
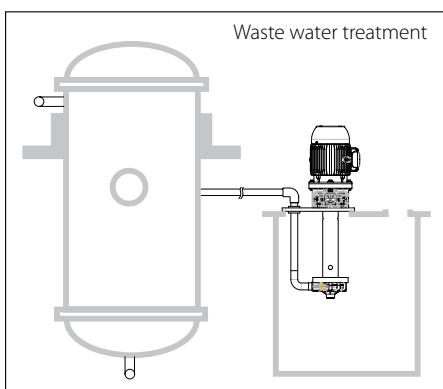
**STANDARD PUMP LENGTHS (mm)**

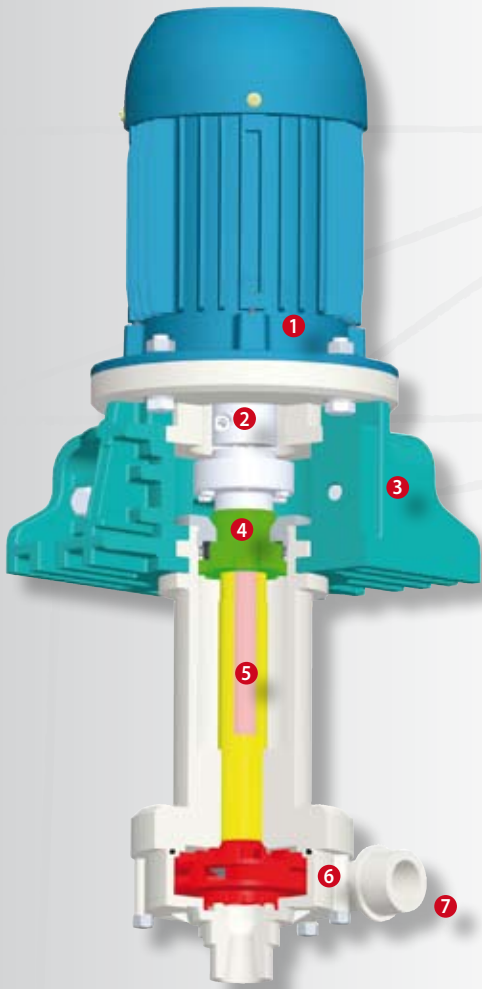
**table 4**

WR	600	800	1000	1250	1500
FC					

**PRINCIPAL COMPONENTS**

- 1 Electric motor with a standard IEC or NEMA flange.
- 2 Coupling joint of the motor with the pump shaft.
- 3 Base bracket in reinforced technopolymer, it "opens" into 2 pieces for easy access to the assembly/disassembly operations of the motor. It supports the pump and acts as a base for application in small spaces.
- 4 Vapour seal operating dry, both in static and dynamic conditions and active up to a backpressure of 60mbar.
- 5 Base plate in thermoplastic polymer.
- 6 Pump shaft in steel covered with a rigid thermoplastic sheath.
- 7 Sliding bearings with the following combinations of materials:  
PTFE/glass on Ceramic Alumina for general use, also with crystalline and flake formations;  
Silicon carbide on silicon carbide in the presence of significant percentages of solids and need of greater chemical resistance (compounds of fluorine, strong alkalis, etc.).
- 8 Pump casing and impeller. In direct contact with the fluid, they are made of materials with excellent chemical resistance. Versions WR and FC have the pump casing and impeller made of polymers respectively reinforced with glass fibers and carbon.
- 9 Suction filter is available on request and fixed to the inlet port with free passage of 3 mm.
- 10 Outlet pipe is connected to the volute casing up to the support plate and is provided with a blocking element.
- 11 Connections  
- WR version (polypropylene): BSP threaded and, upon request, NPT or ISO/ANSI flanged;  
- FC version (PVDF): ISO or ANSI flanged.





**HME** - Constructed for fixed installations, with the pump body submerged in basin, tanks, collecting wells, and for those with supports external to the container of the liquid. In this case, a secondary discharge pipe is required, between the pump and the container of liquid, set on the pump column. (Fig. A)

**STANDARD PUMP LENGTHS (mm)**

**table 5**

<b>WR</b>	275	450
<b>FC</b>		

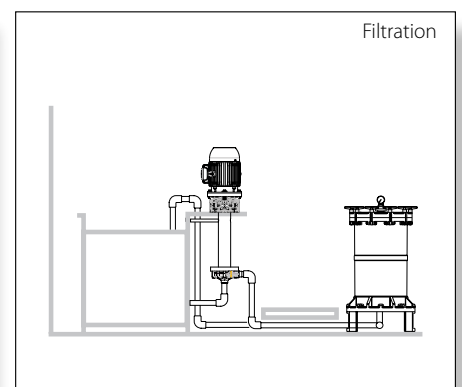
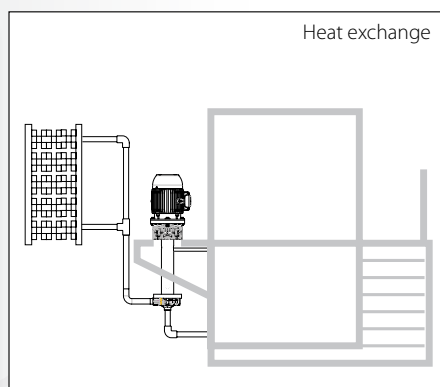
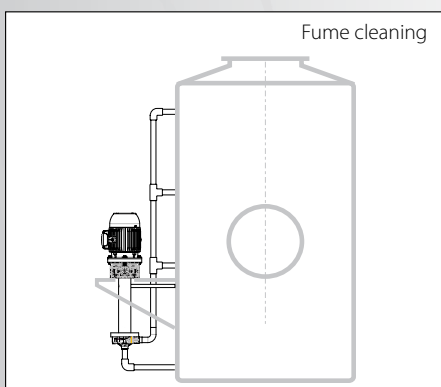
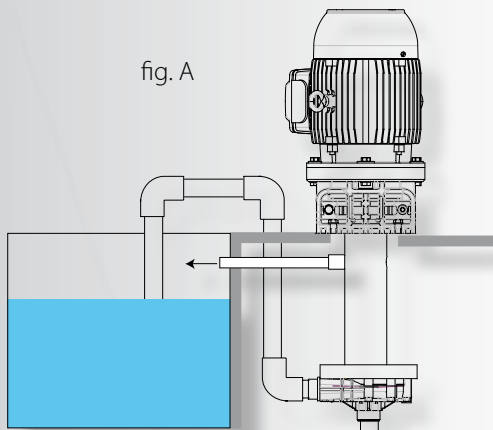
**PRINCIPAL COMPONENTS**

- 1 Electric motor with a standard IEC or NEMA flange.
- 2 Coupling joint of the motor with the pump shaft.
- 3 Base bracket in reinforced engineering polymer, it "opens" into 2 pieces for easy access to the assembly/disassembly of the motor to the pump. It supports the pump and serves as a base for application in small spaces.
- 4 Vapour sealing operating dry both in static and dynamic conditions and active up to a backpressure of 60mbar.
- 5 Pump shaft in steel covered with a rigid thermoplastic sheath.
- 6 Pump casing and impeller. With direct fluid contact, it contains materials with excellent chemical resistance. Versions WR and FC have the pump casing and impeller made of polymers respectively reinforced with glass fibers and carbon.
- 7 Connection (without outlet tube):  
BSP threaded and, upon request, NPT or ISO/ANSI flanged;  
Connection (with the outlet tube):  
WR execution (polypropylene): BSP threaded and, upon request, NPT or ISO/ANSI flanged;  
FC execution (PVDF): ISO or ANSI flanged.

**Optionals:**

- Suction filter fixed to the inlet port with free passage of 3 mm.
- Base plate in thermoplastic polymer
- Outlet pipe is connected to the volute casing up to the support plate and is provided with a blocking element.

fig. A



**INNOVATION**

**CLOSE-COUPLE PUMP WITH ELECTRIC MOTOR APPLICABLE WITHOUT DISASSEMBLING THE PUMP COMPONENTS**

**1** Standardised electric motors (IEC, NEMA):

No motors with special shafts and flanges  
Possibility of different voltages and protections  
Applicability of explosion-proof classes (E-exd).

**2** Argal-designed rigid coupling orthogonality ensured between the coupling flange and the pump shaft axis automatic centering of the 2 half-couplings easy opening/closing of the parts.

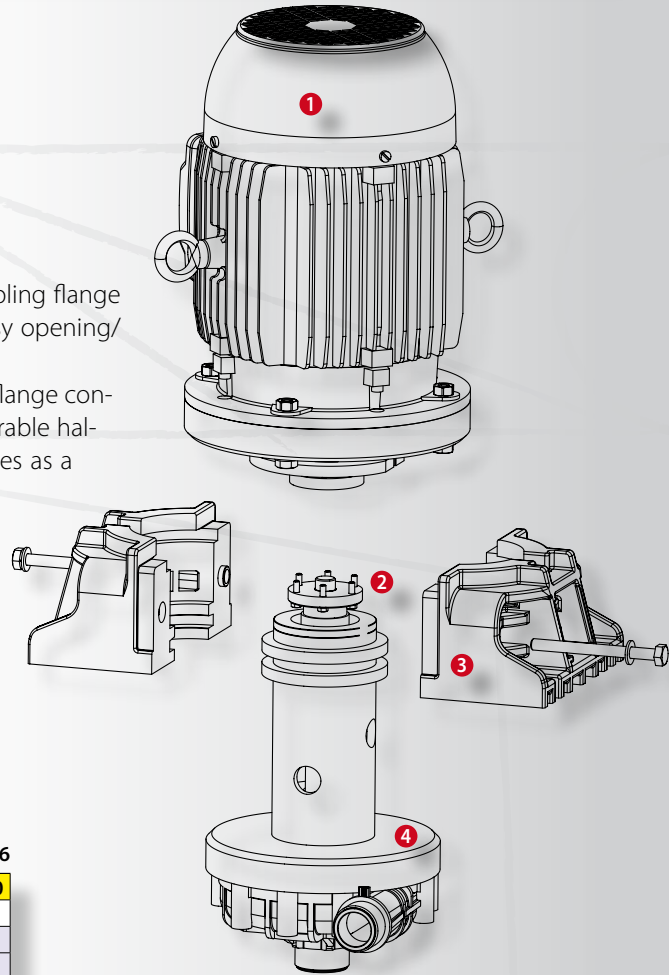
**3** Base bracket conceived by Argal designed for simultaneously fixing the flange connected to the motor with the immersed pump body composed of 2 separable halves to allow the easy installation of the motor through the coupling serves as a base for applications in narrow spaces.

**4** Injection-moulded pump body available in 2 materials.

**WR** – basis resin is PP (Polypropylene) with a wide spectrum of chemical resistance. Its reinforcement with glass fibres offers good mechanical strength and dimensional stability.

**FC** – basis resin is PVDF (Polyvinylidene fluoride), fluorinated polymer with good abrasion resistance and high mechanical strength.

The carbon fibres loading increases its dimensional values and stability without reducing chemical resistance.



**CONNECTIONS**

table 6

		05.11	07.09	07.11	07.14	11.15	11.23	17.25	23.25	35.25	35.30
DnA	Flange										
	ISO	25	32	32	40	40	40	40	40	50	50
DnM.1	ANSI	1"	1 1/4"	1 1/4"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	2"	2"
	ISO	25	32	32	32	32	32	32	32	40	40
DnM.2	ANSI	1"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/2"	1 1/2"
	ISO	20	20	25	25	25	32	32	32	40	40
DeA	ANSI	3/4"	3/4"	1"	1"	1"	1 1/4"	1 1/4"	1 1/4"	1 1/2"	1 1/2"
	Thread										
DeM.1	BSP / NPT	1"	1 1/4"	1 1/4"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	2"	2"
	BSP / NPT	1"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/2"	1 1/2"
DeM.2	BSP / NPT	3/4"	3/4"	1"	1"	1"	1 1/4"	1 1/4"	1 1/4"	1 1/2"	1 1/2"
	BSP / NPT	3/4"	3/4"	1"	1"	1"	1 1/4"	1 1/4"	1 1/4"	1 1/2"	1 1/2"

**PUMP IDENTIFICATION LABEL**

table 7

KME		23.25 N		WR	V	1000	E	N	4	N	B
EQUIPRO RANGE	CHOSE MODEL	EXECUTION N=normal P=powered S=strong. pow.		SEE MATERIALS AND COSTRUCTION	V = FKM E = EPDM	UNDER PLATE LENGHT	E = IEC U = NEMA	N= std S=V. special E=Ex/Proof. O=No motor	MOTOR POWER	N=PTFE/Al <sub>2</sub> O <sub>3</sub> X=Sic/Sic	B = BSP N = NPT Z = ISO-ANSI-JIS
SERIE	MODEL	EXECUTION	VERSION	O-ring MATERIAL	mm.	DATA MOTOR	MOTOR	kw	INTERNAL STRUCTURE	CONNECTIONS	
KME	05.11 07.09 07.11 07.14 11.15 11.23 17.25 23.25 35.25 35.30	N P S	WR FC	V E	600 800 1000 1250 1500	E U	N S E O	0,37 0,55 0,75 1,1 1,5 2,2 3 4 5,5 7,5	N X	B N Z	

**PUMP IDENTIFICATION LABEL**

table 8

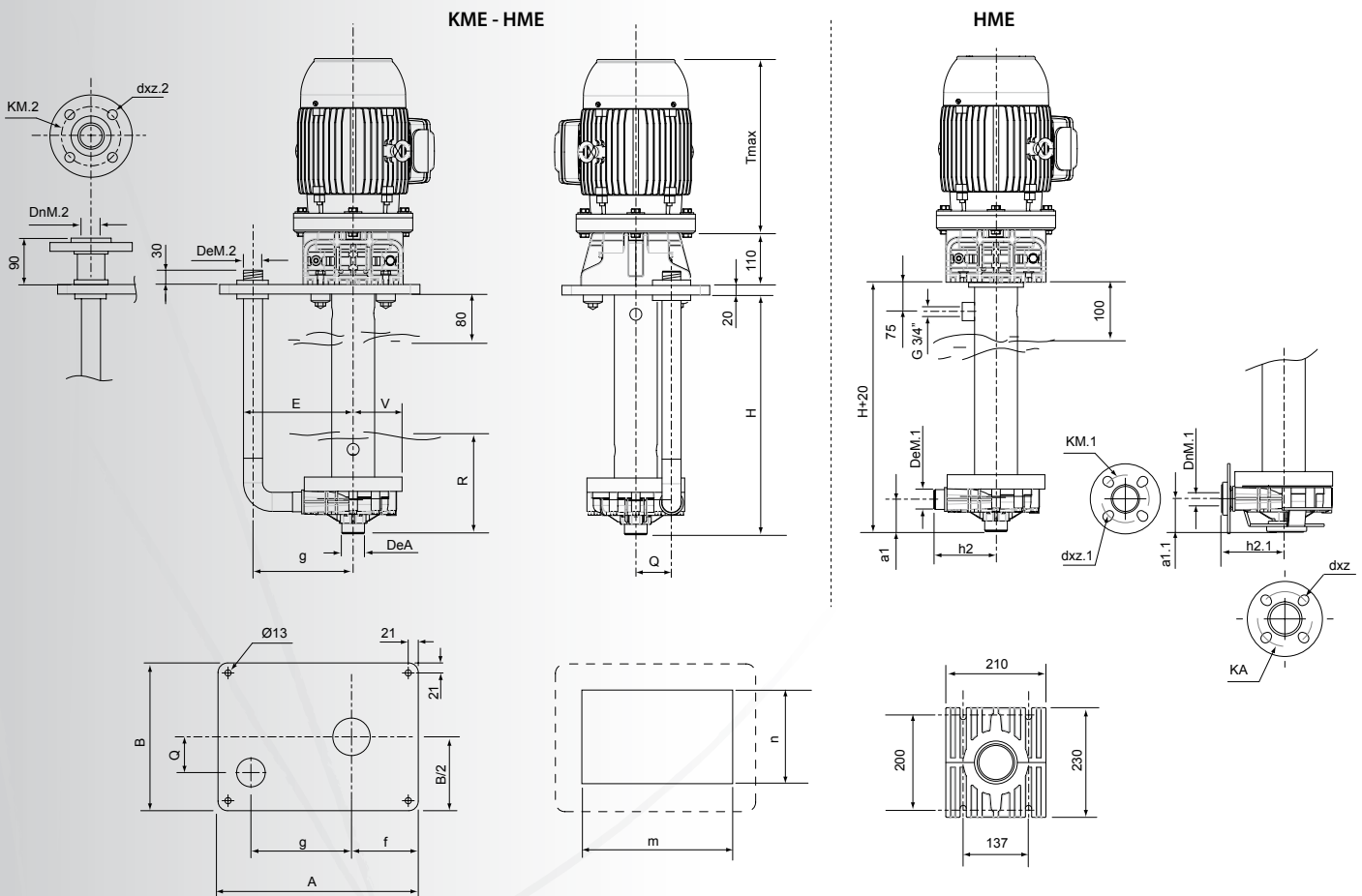
HME		07.14 P		WR	V	275	BC	E	N	1,1
EQUIPRO RANGE	CHOSE MODEL	EXECUTION N=normal P=powered S=strong. pow.		SEE MATERIALS AND COSTRUCTION	V = FKM E = EPDM	UNDER PLATE LENGHT	BC= BSP no plate NC= NPT no plate BP=BSP with plate NP=NPT with plate ZC=ISO-ANSI no plate ZP=SO-ANSI with plate	E = IEC U = NEMA	N= std S=V. special E=Ex/Proof. O=No motor	MOTOR POWER
SERIE	MODEL	EXECUTION	VERSION	O-ring MATERIAL	mm.	CONNECTIONS	DATA MOTOR	MOTOR	kw	
HME	05.11 07.09 07.11 07.14 11.15 11.23 17.25 23.25 35.25 35.30	N P S	WR FC	V E	275 450	BC NP NC ZC BP ZP	E U	N S E O	0,37 0,55 0,75 1,1 1,5 2,2 3 4 5,5 7,5	

**DIMENSIONS**

**table 9**

model	IEC	KA ISO - ANSI	dxz ISO - ANSI	KM.1 ISO - ANSI	dxz.1 ISO - ANSI	KM.2 ISO - ANSI	dxz.2 ISO - ANSI	a1	a1.1	h2	h2.1	Q	V	E	R min	H	A	B	f	g	m	n	T max (*)																				
<b>05.11</b>	N 71A	85	14x4	85	14x4	75 - 70	14x4 - 16x4	62	70	100	108	50	73	190	130	HME 275 - 450 KME 600 - 800 - 1000 - 1250 - 1500	400	310	140	170	340	250	235																				
	P 71B	-	-	-	-																		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	255				
	S 80A	79	16x4	79	16x4																		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	235			
<b>07.09</b>	N 71B	100 - 89	18x4 - 16x4	100 - 89	18x4 - 16x4	85 - 79	18x4 - 16x4	67	67	130	130	75	103	222	250	HME 450 KME 600-800-1000-1250-1500	450	340	165	220	390	280	255																				
	P 80A																						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	300
	S 80B																						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>07.11</b>	N 80A	110 - 98	18x4 - 16x4	110 - 98	18x4 - 16x4	100 - 89	18x4 - 16x4	67	67	130	130	75	103	222	250	HME 450 KME 600-800-1000-1250-1500	450	340	165	220	390	280	300																				
	P 80B																						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	255
	S 90S																						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>07.14</b>	N 80B	110 - 98	18x4 - 16x4	110 - 98	18x4 - 16x4	100 - 89	18x4 - 16x4	67	67	130	130	75	103	222	250	HME 450 KME 600-800-1000-1250-1500	450	340	165	220	390	280	300																				
	P 90S																						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	330
	S 90L																						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>11.15</b>	N 90S	125	18x4 - 19x4	110 - 98	18x4 - 16x4	110 - 98	18x4 - 16x4	70	70	160	160	96	135	252	250	HME 450 KME 600-800-1000-1250-1500	450	340	165	220	390	280	350																				
	P 90L																						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	330
	S 100																						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>11.23</b>	N 90L	121	18x4 - 19x4	110 - 98	18x4 - 16x4	110 - 98	18x4 - 16x4	70	70	160	160	96	135	252	250	HME 450 KME 600-800-1000-1250-1500	450	340	165	220	390	280	330																				
	P 100																						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	330
	S 112																						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>17.25</b>	N 112	125	18x4 - 19x4	110 - 98	18x4 - 16x4	110 - 98	18x4 - 16x4	70	70	160	160	96	135	252	250	HME 450 KME 600-800-1000-1250-1500	450	340	165	220	390	280	360																				
	P 132SA																						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	410
	S /																						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>23.25</b>	N 112	125	18x4 - 19x4	110 - 98	18x4 - 16x4	110 - 98	18x4 - 16x4	70	70	160	160	96	135	252	250	HME 450 KME 600-800-1000-1250-1500	450	340	165	220	390	280	360																				
	P 132SA																						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	410
	S /																						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>35.25</b>	N 132SA	125	18x4 - 19x4	110 - 98	18x4 - 16x4	110 - 98	18x4 - 16x4	70	70	160	160	96	135	252	250	HME 450 KME 600-800-1000-1250-1500	450	340	165	220	390	280	410																				
	P 132SB																						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	410
	S /																						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>35.30</b>	N 132SB	121	18x4 - 19x4	110 - 98	18x4 - 16x4	110 - 98	18x4 - 16x4	70	70	160	160	96	135	252	250	HME 450 KME 600-800-1000-1250-1500	450	340	165	220	390	280	410																				
	P /																						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	410
	S /																						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

(\*) can change for motors of different brands





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