

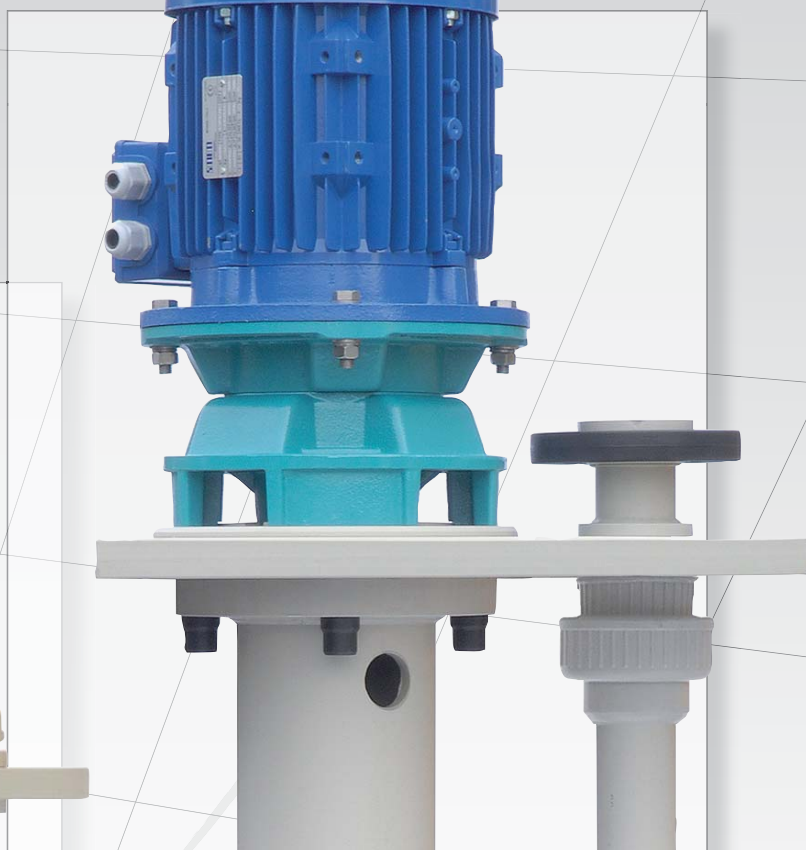
ARGAL

CHEMICAL PUMPS

Argal offers "more"



EQUIPRO series



K GK series

VERTICAL PUMPS

With its new range of vertical axial pumps designed for aggressive liquids and thoroughly injection moulded with thermoplastic polymers as polypropylene (PP) and polyvinylidene fluoride (PVDF) parts Argal offers more advantages as:

Fully industrialised products offering a broad range of constructive options.

Solid reliability and extended operative life.

Ease and convenience of use.

Fully industrialised products offering a broad range of constructive options.

The new range included in our latest 2010 production plan, benefits from the manufacturing experience made on vertical axle pumps made from 1995 till today and embeds all the latest functional and constructive improvement that respond to the demands of traditional and new applications.

Argal designs and manufactures accordingly to certified quality system ISO 9001:2000 that dictates the standard of all the internal processes, favours accurate fabrication and increases the global quality of the product.



Solid reliability and extended operative life.

The new vertical pumps have constructive solutions to increment reliability and extend useful life; the most important are:

Stoutness of the injection moulded casings conveniently ribbed, reinforced with fibreglass or carbon filler and designed with the support of geometric analysis software (GEM);

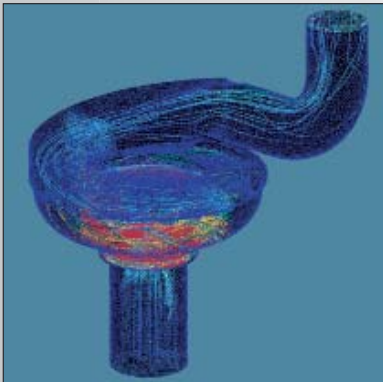
Sturdiness of the columns to support the casing;

Efficiency of the different vapour seals solutions available;

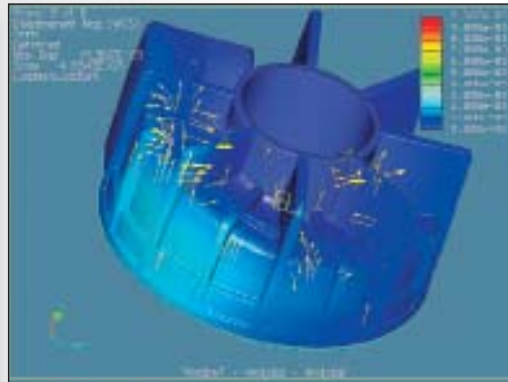
Broad selection of materials of fix and rotating shafts' guides and its seamless protective sheathing;

Reduced radial loads and overall stress delivered to bearings, shaft and supports due to CFD hydrodynamic flows optimised with CFD analysis;

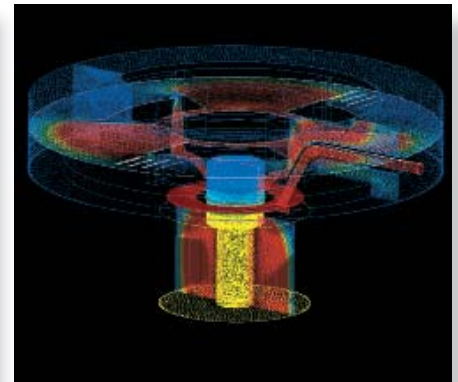
Standard suction filter installed on all units.



CFD (Computing Fluid Dynamics)
Analysis of semi axial flow of the hydraulic parts.



GEM (Geometrical Elements Modelling)
Analysis of Volute casing.



CFD (Computing Fluid Dynamics)
Analysis of the air flow within fluid barrier system.

Ease and convenience of use.

Ease of use, ease of maintenance, consistently economical running costs despite of environments and applications are the basic engineering inputs implemented in the new range of Argal vertical pumps by our design team. To achieve the targeted goals the traditional long coupling design between pump and motor was compacted and enables to host electric IEC and NEMA standardised motors easy to fetch and install and all parts subjected to wear provided also as pre configured kits replaceable on site with common tools. To comply to specific as different length of immersed parts, hydraulic features, light or heavy duties, Intermittent, continuous or random duty cycle, Installation in or outside of a vessel pressurised or at atmospheric pressure and to prevent escape in the atmosphere of hazardous or corrosive gaseous fluids by mean of various types of vapour seals. We diversified the new vertical pumps between EQUIPRO and KGK ranges.

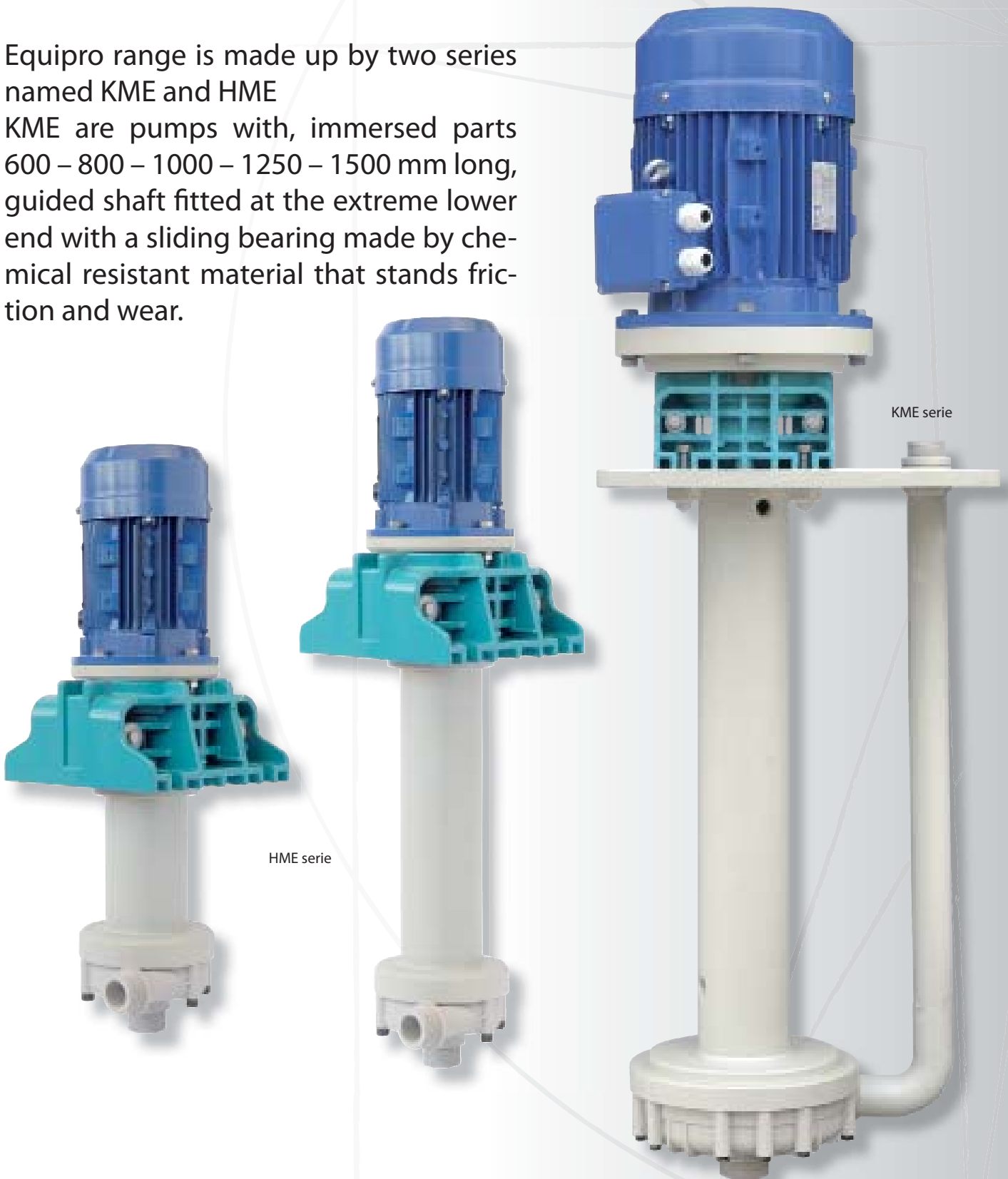
EQUIPRO RANGE.

The vertical pumps of Equipro range are short coupled and mated to the normalised electric motor with a solid joint.

By ingenious design the motor bracket splits in two and widely exposes the joint to easy inspection and simplified electric motor installation.

Equipro range is made up by two series named KME and HME

KME are pumps with, immersed parts 600 – 800 – 1000 – 1250 – 1500 mm long, guided shaft fitted at the extreme lower end with a sliding bearing made by chemical resistant material that stands friction and wear.



HME serie

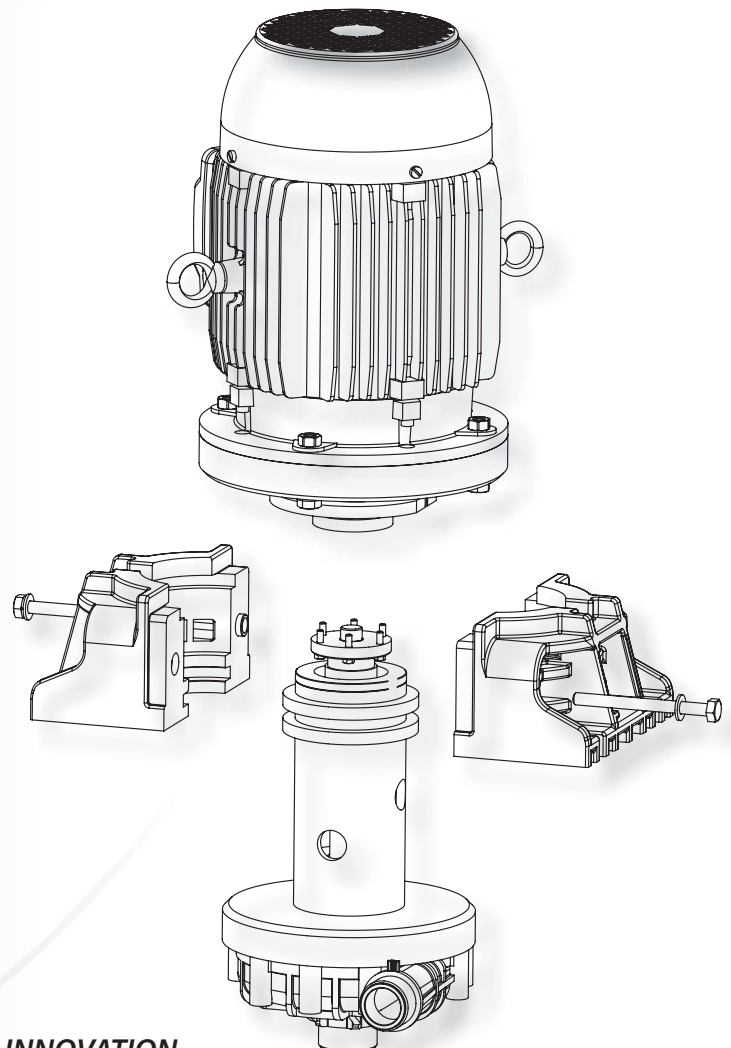
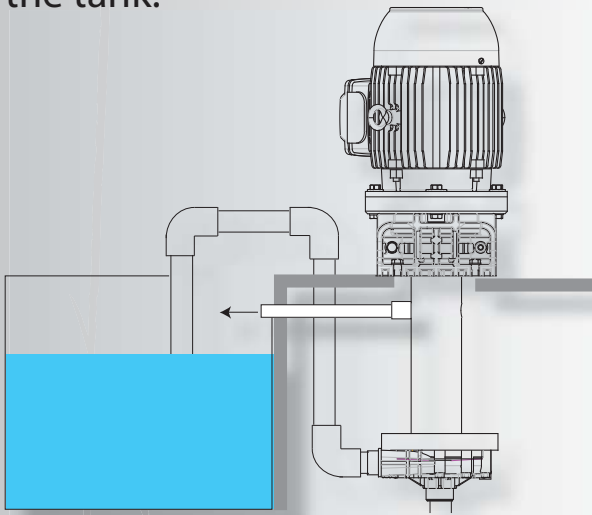
KME serie

Each pump model hosts 3 electric motors of increasing power to pump, at the rated max. current delivered by each motor liquids with specific weight of 1,1 – 1,35 – 1,8 kg/dm³ up to the max. flow delivered by the pump. .

Equipro pumps are designed for medium duties and limited intermittent use, max, flow of 50 m³/h, heads of 40 m.w.c. and motor power up to 15 kW.

The HME are pumps with, immersed parts 275 – 450 mm long featuring overhung guideless shaft , apt to pump liquid laden with solids and crystal particles and capable to stand dry running .

Additionally HME pumps if properly installed can be operated also outside of the tank.



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

KGK RANGE

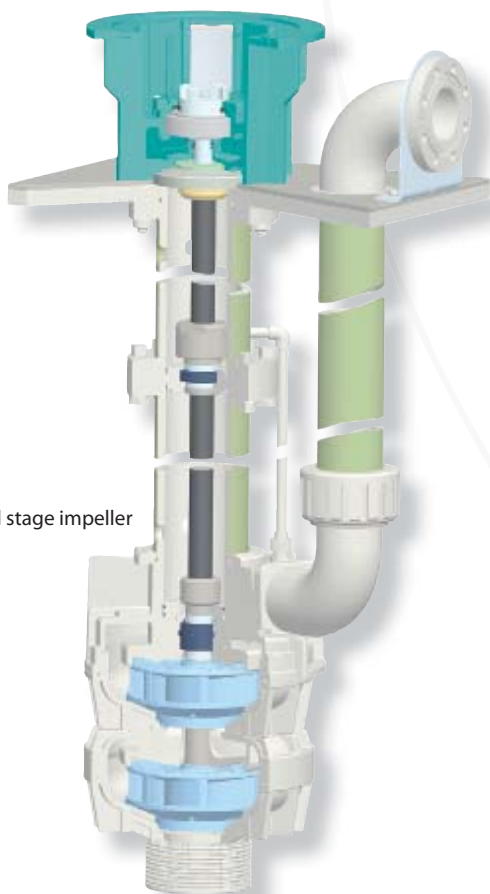
The KGK vertical pumps range features an extremely compact new mechanical support that encases a roll bearing resistant to axial loads and lubricated with grease or oil (depending from model) and the flexible joint that couples the pump to the standardised electric motor. These pumps are recommended for continuous duty and process application up to temperature of 80°C.

The KGK range includes 3 sizes (namely G1, G2 and G3) and each size groups different models. All models across each size share all main mechanical components:

Size G1 delivers flows up to 30 m³/h, heads of 30 m.w.c. and electric motors up to 5,5 kw

Size G2 delivers flows up to 80 m³/h, heads of 40 m.w.c. and electric motors up to 15 kw

Size G3 delivers flows up to 280 m³/h, heads of 80 m.w.c. and electric motors up to 45 kw.



Dual stage impeller

Each pump model can be set to host three motors of increasing power to pump to the max flow liquids with specific weight up to 1,1 kg/dm³ – 1,35 kg/dm³ – 1,8 kg/dm³.

The length of the immerse parts starts from a minimum of 500 mm and reaches up to 4000 mm by steps of 250 mm.

The volute casing of the KGK G3 size are of single stage single impeller type or dual stage with two in line impellers type.

The latter design delivers twice the pressure of a single stage pump but with the same volute casing foot print dimensions, and same structural parts which translates in very attractive performances / price ratio uncompromised quality and compact dimensions.

The shaft of KGK pumps is guided by sliding bushing located in proximity of the volute casing and made by fix and one parts constructed with adequate chemical resistant materials.

The KGK pumps are fitted with a further intermediate guide for length of immersed parts exceeding 2000 mm.

To increase the structural strength and to contain the thermal elongation of the thermoplastic material it is available an execution of the column and the delivery pipe sheeted and reinforced with FRP (fibre reinforced polyester resin).



For this execution we exclusively use vinylester resins that deliver same chemical resistance of the thermoplastic materials (PP and PVDF) they reinforce.

To protect mechanical part of the pump from exposure to any corrosive gas and prevent escape of hazardous vapours from the vessel where the device is installed, we can fit the pump, depending from the specific duty and pressure to be contained, with up to 4 types of different seals:

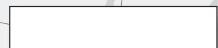
VR – standard type, static - dynamic seal to stand pressures up to 100 – 150 mbar;

VL – static – dynamic seal type with dynamic deflector to dynamically stand pressures up to 250 – 300 mbar;

VF – fluid seal type - to prevent pressurised gases present in the pit or tank from escaping in the atmosphere by exploiting the properties of a laminar flow of water or air inflated in the seal from an external supply;

VM – single mechanical seal lubricated by the liquid pumped.

KGK G3 size pumps are characterised by a semi axial hydrodynamic flow that diminishes the mechanical loads delivered by the impeller to the bearing guide and reduces the overall vibration of the equipment ; this positively reflect on extended duty life and reduced maintenance requirements.



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