

# CHEMICAL COMPATIBILITY GUIDE

Legend: A= Very good | B= Good | C= Poor, not recommended | D= Very poor, not recommended | 1= Good until 22°C (72°F) | 2= Good until 48°C (120°F)

CHEMICAL	PUMP MATERIALS			O-RINGS MATERIALS		
	PP	PVDF	AISI 316	EPDM	VITON	PTFE
ACETIC ACID	B	C	B	A	B	A
ACETIC ACID 20%	A	A	A	A	B	A
ACETIC ACID 80%	A	C	B	A	B	A
ACETIC ACID, GLACIAL	A1	A1	A	B	D	A
ACETONE	A	D	A	A	D	A
ALCOHOLS: ETHYL	A	A	A	A	A	A
ALCOHOLS: ISOPROPYL	A2	A	B	A	A	A2
ALCOHOLS: METHYL	A2	A	A	A	C	A
ALCOHOLS: PROPYL	A	A2	A	A	A	A
ALUMINIUM SULFATE	A	A	B2	A	A	A
AMINES	B2	-	A	B	D	A2
AMMONIA, LIQUID	A2	A	A2	A	D	A
CHLORINE, ANHYDROUS LIQUID	D	A1	C	B	A	A
COPPER CHLORIDE	A	A	D	A	A	A
COPPER SULFATE > 5%	A	A	B	A	A	A
DETERGENTS	A	A	A1	A	A	A
ETHER	D	B1	A	C	C	A
FERRIC CHLORIDE	A	A	D	A	A	A
FUEL	A1	A	A1	D	A	B
FUEL OILS	A	B	A	D	A	B
GASOLINE (HIGH - AROMATIC)	A	A	A	D	A	A
GLUCOSE	A	A	A	A	A	A
HYDRAULIC OIL (PETRO)	D	A	A	D	A	A
HYDROCHLORIC ACID < 33%	A2	A	D	A2	A	A
HYDROFLUORIC ACID 50%	D	A	D	D	B	A
HYDROFLUORIC ACID 100%	C1	A	B1	D	B	A
HYDROGEN PEROXIDE 10%	A	A	B	A	A	A
HYDROGEN PEROXIDE 30%	B1	A	B	B	A	A
LACQUER THINNERS	D	-	A	D	D	A
MOTOR OIL	A1	B	A2	D	-	A
NAPHTHA	B	A	A	D	A	B
NICKEL CHLORIDE	A	A	C	A1	A	A
OIL: HYDRAULIC OIL (SYNTHETIC)	D	A	A	A	A	A
OLIVE OIL	A	-	A	D	A	A1
PHENOL (CARBOLIC ACID)	B	A1	B	B	A	A
PHOSPHORIC ACID < 40%	A	A	C	A	A	A
PHOSPHORIC ACID > 40%	A	A	D	A	A	A
PHOTOGRAPHIC DEVELOPER	A	-	A	B	A	A
ROSINS	A2	-	A1	-	A	A
SALT BRINE	A	A	A2	A	A2	A2
SEA WATER	A	A	C	A2	A	A
SOAP SOLUTIONS	A	A1	A1	A	A	A
SODIUM BICARBONATE	A	A	A1	A2	A	A
SODIUM BISULFITE	A	A	B1	A2	A	A
SODIUM CARBONATE	A	A	A	A2	A	A
SODIUM CHLORIDE	A	A	B	A	A	A
SODIUM HYDROXIDE (10%)	A	C	-	A	C	-
SODIUM HYDROXIDE (40%)	A	C	-	A	C	-
SODIUM HYDROXIDE (50%)	A	C	B1	A	D	A
SODIUM HYPOCHLORITE (100%)	C	A	C	B1	A1	A
SODIUM HYPOCHLORITE 12.5%	C	A	C	A	A	A
SULFURIC ACID (10-75%)	A1	A	D	B2	A2	A
SULFURIC ACID (75-100%)	C1	A	D	B1	A1	A
SULFURIC ACID 100%	D	D	A	D	A	A
TIN SALTS	A	A	D	B	A	A
TOLUENE (TOLUOL)	C1	A1	A	D	C	A
UREA	A	A	B	A	A	A
WATER, ACID, MINE	A	A	B	A	A	A
WATER, DISTILLED	A	A	A	A	A	A



## OUR COMPANY

GemmeCotti srl has been designing and manufacturing chemical pumps for acids and dangerous liquids since 1992, when its founders started their own company after considerable experience in pump design and production. Over the years, GemmeCotti has created its own range of industrial pumps designed and manufactured by its experienced team of experts. We are now specialized in magnetic drive pumps, mechanical seal pumps and vertical pumps. GemmeCotti pumps are valued worldwide and they are successfully used in many different industries including: chemical and petrochemical, pharmaceutical, oil refinery, electroplating, printed circuits, electronic, photography, military, water treatments, biotechnology, paper mills, textile, sugar plants, food processing, dairies and many others.



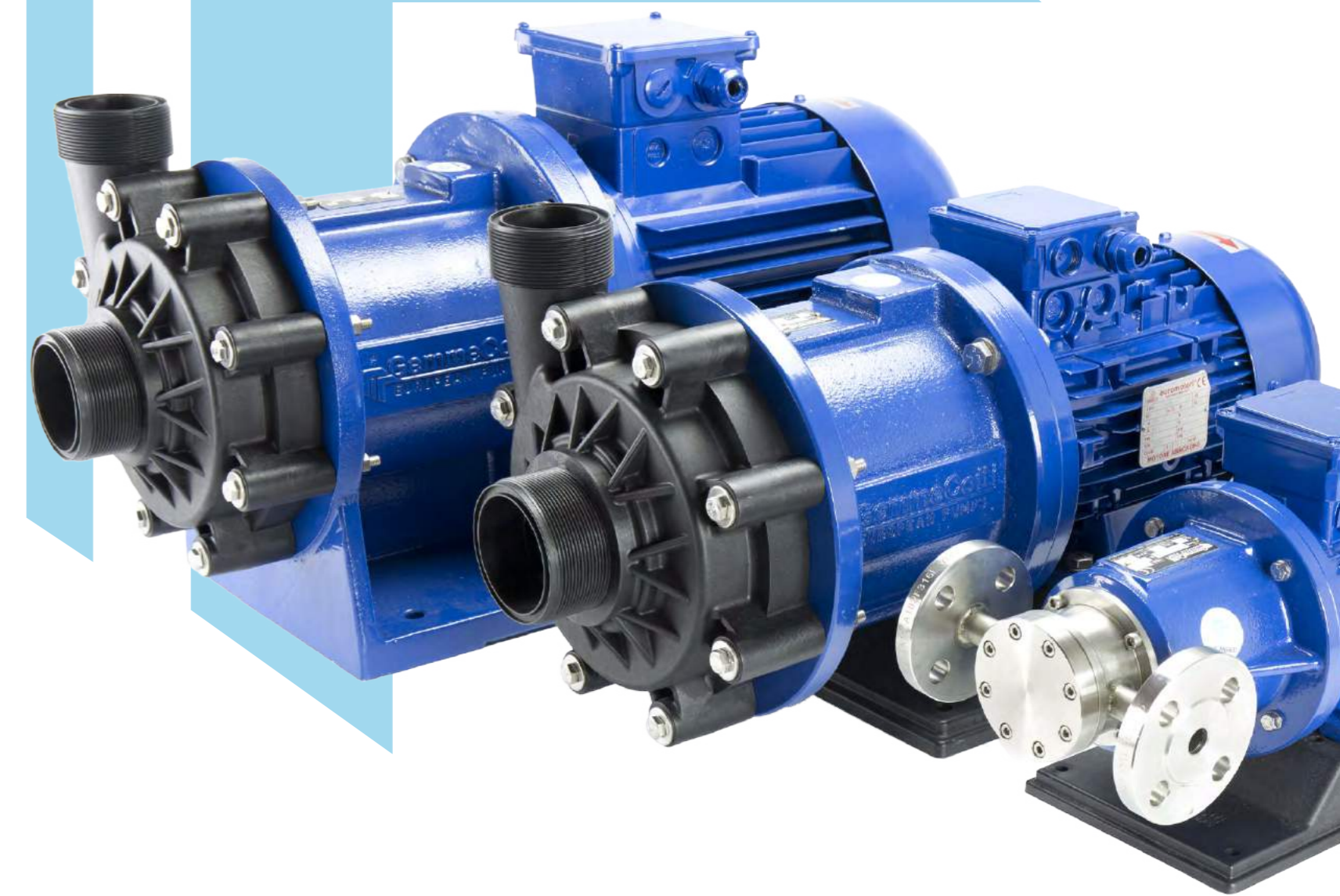
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100% MADE IN ITALY



CHEMICAL PUMPS  
SINCE 1992



All the information in this chart is only approximate and should only be used for an initial choice of the type of materials best suited for the customers' pumps. The data comes from various highly reliable sources. Despite this, GemmeCotti itself did not carry out the relative tests, and is not responsible for the precision of the data. Therefore, GemmeCotti has no responsibility for possible malfunctions or damage of any type caused by the incorrect selection of construction materials and/or of the incorrect choice of pump size if it is not made by GemmeCotti itself after having received all suitable information regarding the application and the characteristics of the pumped liquid.

## MAG DRIVE CENTRIFUGAL PUMPS

In seal-less magnetic drive centrifugal pumps, the external magnet is directly connected to the motor shaft and it transmits the torque to the internal magnet. The magnetic field created produces a rotation without physical contact between the parts so the impeller spins and moves the fluid. The rear casing is placed between the two magnet joints and it hermetically closes the hydraulic part from the motor.

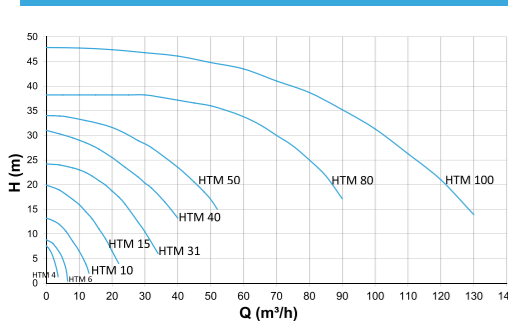
### HTM PP/PVDF



#### TECHNICAL DATA

	50 HZ	60HZ
CAPACITY	0,5 - 2 m³/h	2-528 usgpm
MAX HEAD	48 mlc	148 ft
TEMPERATURE	0° / +90°C	+32° / +190°F
MAX NP @ 20°C	6 bar	90 PSI

#### CURVES 50HZ - 2900 RPM



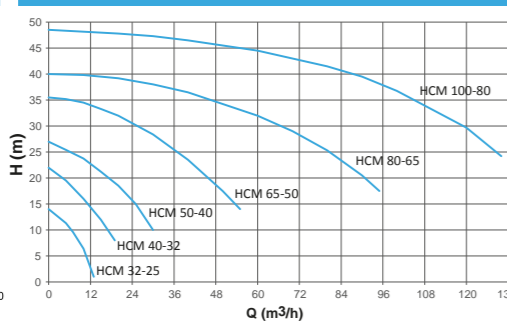
### HCM PP/PVDF



#### TECHNICAL DATA

	50 HZ	60HZ
CAPACITY	0,5 - 130 m³/h	2 - 660 usgpm
MAX HEAD	48 mlc	200 ft
TEMPERATURE	0° / +90°C	32° / +190°F
MAX NP @ 20°C	6 bar	90 PSI

#### CURVES 50HZ - 2900 RPM



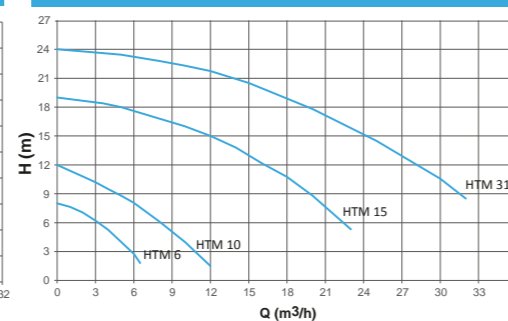
### HTM SS 316



#### TECHNICAL DATA

	50 HZ	60HZ
CAPACITY	0,5 - 32 m³/h	3-175 usgpm
MAX HEAD	24 mlc	110 ft
TEMPERATURE	-40° / +160°C	-40° / +320°F
MAX NP @ 20°C	10 bar	150 PSI

#### CURVES 50HZ - 2900 RPM



## MAG DRIVE CENTRIFUGAL PUMPS SELF-PRIMING

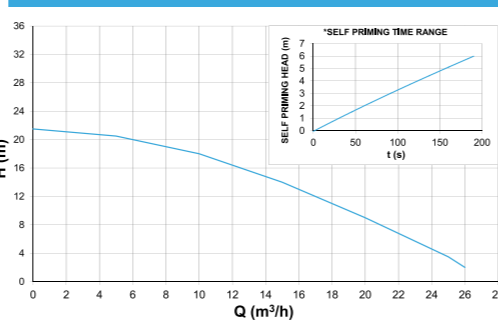
### HTM-SP



#### TECHNICAL DATA

	50 HZ
CAPACITY	25 m³/h
MAX HEAD	22 mlc
TEMPERATURE	60°C

#### CURVES 50HZ - 2900 RPM



## MAG DRIVE ROTARY VANE PUMPS

In seal-less magnetic drive vane pumps, the external magnet is directly connected to the motor shaft and it transmits the torque to the internal magnet. The magnetic field created produces a rotation without physical contact between the parts and the rotor spins. The vanes inside the rotor slide in and out of their seat and they move the fluid. The rear casing is placed between the two magnet joints and it hermetically closes the hydraulic part from the motor.

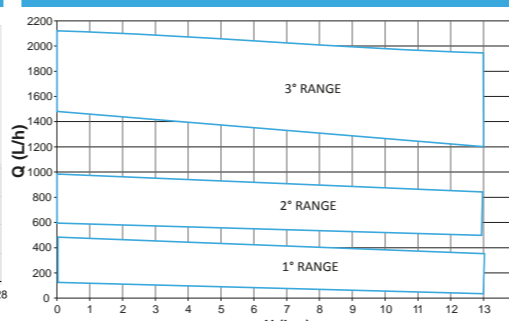
### HTP



#### TECHNICAL DATA

	50 HZ	60HZ
CAPACITY	120 - 2100 l/h	0,5 - 11 usgpm
MAX HEAD	13 bar	188 PSI
TEMPERATURE	-40° / +160°C	-40° / +320°F
MAX NP @ 20°C	25 bar	360 PSI

#### CURVES 50HZ - 1450 RPM



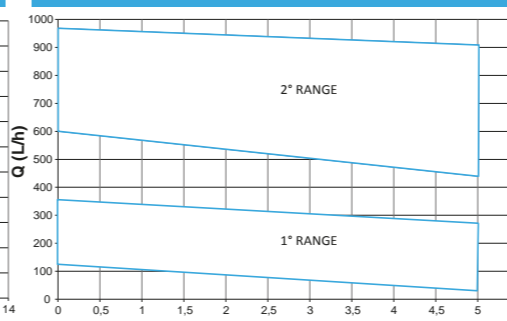
### HPP/HPF



#### TECHNICAL DATA

	50 HZ	60HZ
CAPACITY	100 - 1000 l/h	0,1 - 3,5 usgpm
MAX HEAD	5 bar	72 PSI
TEMPERATURE	0° / +90°C	32° / +190°F
MAX NP @ 20°C	5 bar	72 PSI

#### CURVES 50HZ - 1450 RPM



## AIR-OPERATED DOUBLE DIAPHRAGM PUMPS

### HAOD



#### TECHNICAL DATA

	50 HZ
CAPACITY	21 - 310 l / min
MAX HEAD	80 m
TEMPERATURE	PP 60°C - PVDF 95°C - AISI 316 95°C
MATERIALS	PP, PVDF, AISI 316
IN-OUT CONNECTIONS	G 3/8", G 1/2", G 3/4", G 1", G 1 1/2"

The double diaphragm pumps series HAOD is suitable to pump aggressive liquids, even with very high viscosity and solids in suspension. These pumps are built with an anti-stalling pneumatic circuit that ensures the highest possible level of security and efficiency and it doesn't require lubricated air. The HAOD pumps are available in several materials and dimensions and they can operate in potentially explosive atmospheres.

## VERTICAL CANTILEVER PUMPS

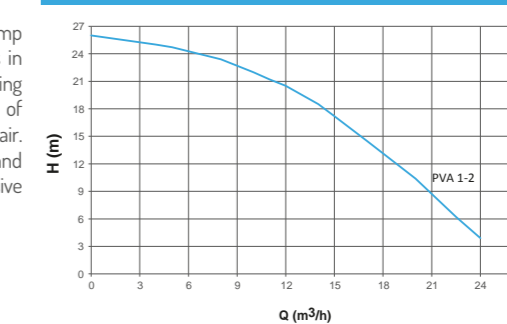
### PVA



#### TECHNICAL DATA

	50 HZ	60HZ
CAPACITY	0,5 - 24 m³/h	3 - 130 usgpm
MAX HEAD	26 mlc	100 ft
TEMPERATURE	0° / +160°C	32° / +320°F

#### CURVES 50HZ - 2900 RPM



## ATEX PUMPS



GemmeCotti ATEX certified pumps are suitable for zone 1 II 2G and zone 2 II 3G.

The ATEX certified pumps models available are:

- EM-C in PP or PVDF: only for zone 2 (see pump model HTM PP/PVDF)
- EM-T in PP or PVDF: only for zone 2 (see pump model HTT)
- EM-P in PP or PVDF: only for zone 2 (see pump model HPP/HPF)
- EM-T SP in PP or PVDF: only for zone 2 (see pump model HTT SP)
- EM-C0 in PP or PVDF: only for zone 2 (see pump model HCM)
- EM-C in AISI316: for zone 1 and 2 (see pump model HTM SS316)
- EM-T in AISI316: for zone 1 and 2 (see pump model HTA)
- EM-P in AISI 316: for zone 1 and 2 (see pump model HTP)

## MAG DRIVE TURBINE PUMPS

In seal-less magnetic drive turbine pumps, the external magnet is directly connected to the motor shaft and it transmits the torque to the internal magnet. The magnetic field created produces a rotation without physical contact between the parts and the turbine spins and moves the fluid. The rear casing is placed between the two magnet joints and it hermetically closes the hydraulic part from the motor.

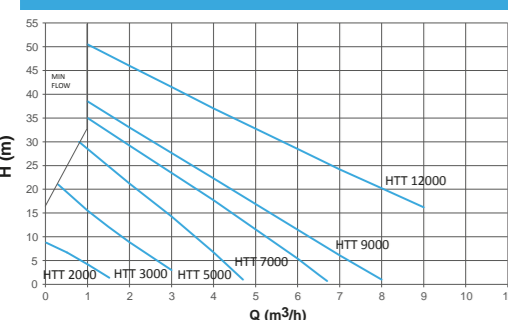
### HTT



#### TECHNICAL DATA

	50 HZ	60HZ
CAPACITY	0,2 - 9 m³/h	1 - 47 usgpm
MAX HEAD	50 mlc	210 ft
TEMPERATURE	0° / +90°C	32° / +190°F
MAX NP @ 20°C	6 bar	90 PSI

#### CURVES 50HZ - 2900 RPM



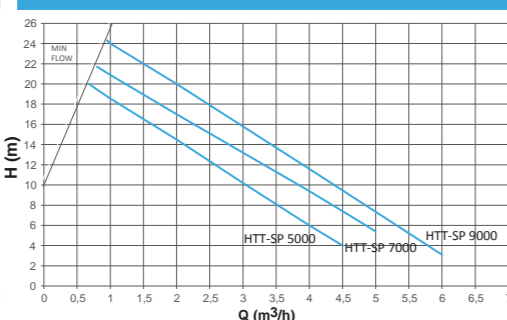
### HTT-SP



#### TECHNICAL DATA

	50 HZ	60HZ
CAPACITY	0,2 - 6 m³/h	1 - 32 usgpm
MAX HEAD	24 mlc	110 ft
TEMPERATURE	0° / +90°C	32° / +190°F
MAX NP @ 20°C	6 bar	90 PSI

#### CURVES 50HZ - 2900 RPM



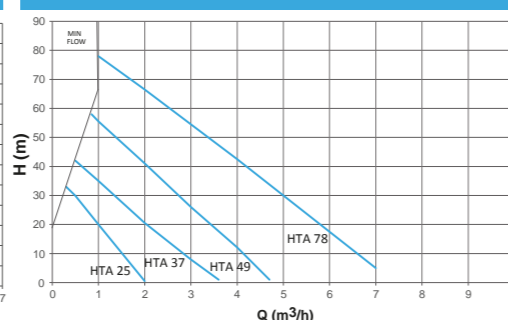
### HTA



#### TECHNICAL DATA

	50 HZ	60HZ
CAPACITY	0,2 - 7 m³/h	2,6-35 usgpm
MAX HEAD	76 mlc	314 ft
TEMPERATURE	-40° / +160°C	-40° / +320°F
MAX NP @ 20°C	25 bar	360 PSI

#### CURVES 50HZ - 2900 RPM



## VERTICAL PUMPS

Vertical centrifugal pumps are suitable for installations with the column immersed directly in the tank.

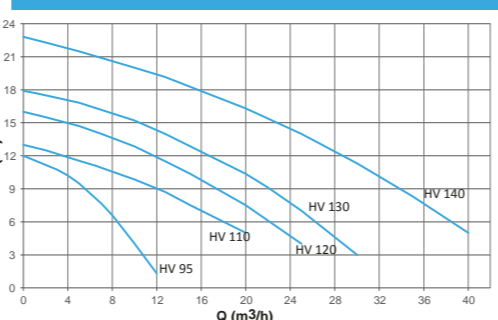
### HV



#### TECHNICAL DATA

	50 HZ	60HZ
CAPACITY	0,2 - 40 m³/h	3 - 212 usgpm
MAX HEAD	22 mlc	104 ft
TEMPERATURE	0° / +90°C	32° / +190°F
MAX COLUMN LENGTH	1000 mm	

#### CURVES 50HZ - 2900 RPM



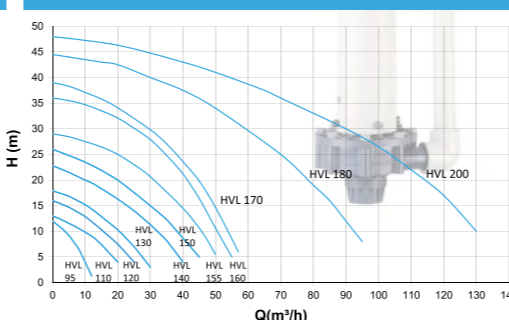
### HVL



#### TECHNICAL DATA

	50 HZ	60HZ
CAPACITY	0,2 - 130 m³/h	3 - 687 usgpm
MAX HEAD	48 mlc	227 ft
TEMPERATURE	0° / +90°C	32° / +190°F
MAX COLUMN LENGTH	2000 mm	

#### CURVES 50HZ - 2900 RPM



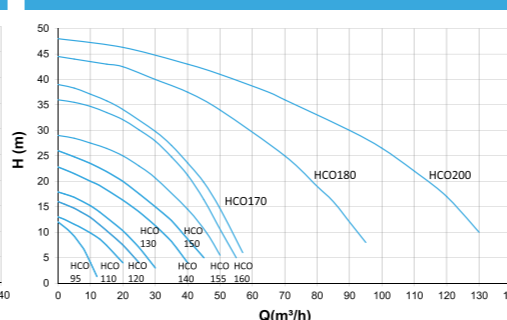
### HCO



#### TECHNICAL DATA

	50 HZ	60HZ
CAPACITY	0,5 - 130m³/h	3 - 687 usgpm
MAX HEAD	48 mlc	227 ft
TEMPERATURE	0° / +90°C	32° / +190°F
MAX NP @ 20°C	6 bar	90 PSI

#### CURVES HCO PP/PVDF - 2900 RPM



## MECHANICAL SEAL CENTRIFUGAL PUMPS

Mechanical seal pumps are the right solution when pumping fluids containing solids in suspension.

#### BASEPLATES

Baseplate in PP suitable for pumps complete with motors B3/B5.

Available in 3 different dimensions:

- BASEPLATE TYPE "A" suitable for: IEC motors B3/B5 from size 56 to size 71
- BASEPLATE TYPE "B" suitable for: IEC motors from size 80 to size 90 and NEMA motors 56TC and 145TC.
- BASEPLATE TYPE "C" suitable for: IEC motors from size 100 to size 112 and NEMA motors 184TC.

#### DRY-RUNNING PROTECTION

To prevent damages to the pumps due to the lack of liquid, GemmeCotti supplies the dry running protection device. This device is particularly recommended during the operations of tanker unloading and for all the applications in which there is the risk of liquid shortage.

Thanks to the adjustable threshold and timer, it is possible to set up the minimum power and operation time of the device. If the power is lower than the set value, the pump will automatically stop.

Single Phase CURRENT RELAY  
Multirange IS-35A  
2 set points MAX / min  
Also for motors with INVERTER

#### FLANGES

GemmeCotti pumps are usually supplied with threaded connections. Upon request we can also supply DIN or ANSI flanges for thermoplastic pumps (flat stub + free flange) and welded DIN or ANSI flanges for AISI316 pumps.

## ACCESSORIES

