

D

SERIES



Dosing & Metering Gear Pumps Nitrided Cast Iron (G25)

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GENERAL FEATURES

+Application: D-series gear pumps are precision metering pumps, particularly small and compact, that have been projected for the metering and dosing of great variety of fluids for chemical and plastic industries.

+Clock Wise Rotation: D-series gear pumps have only one pumping sense, standard clock wise.

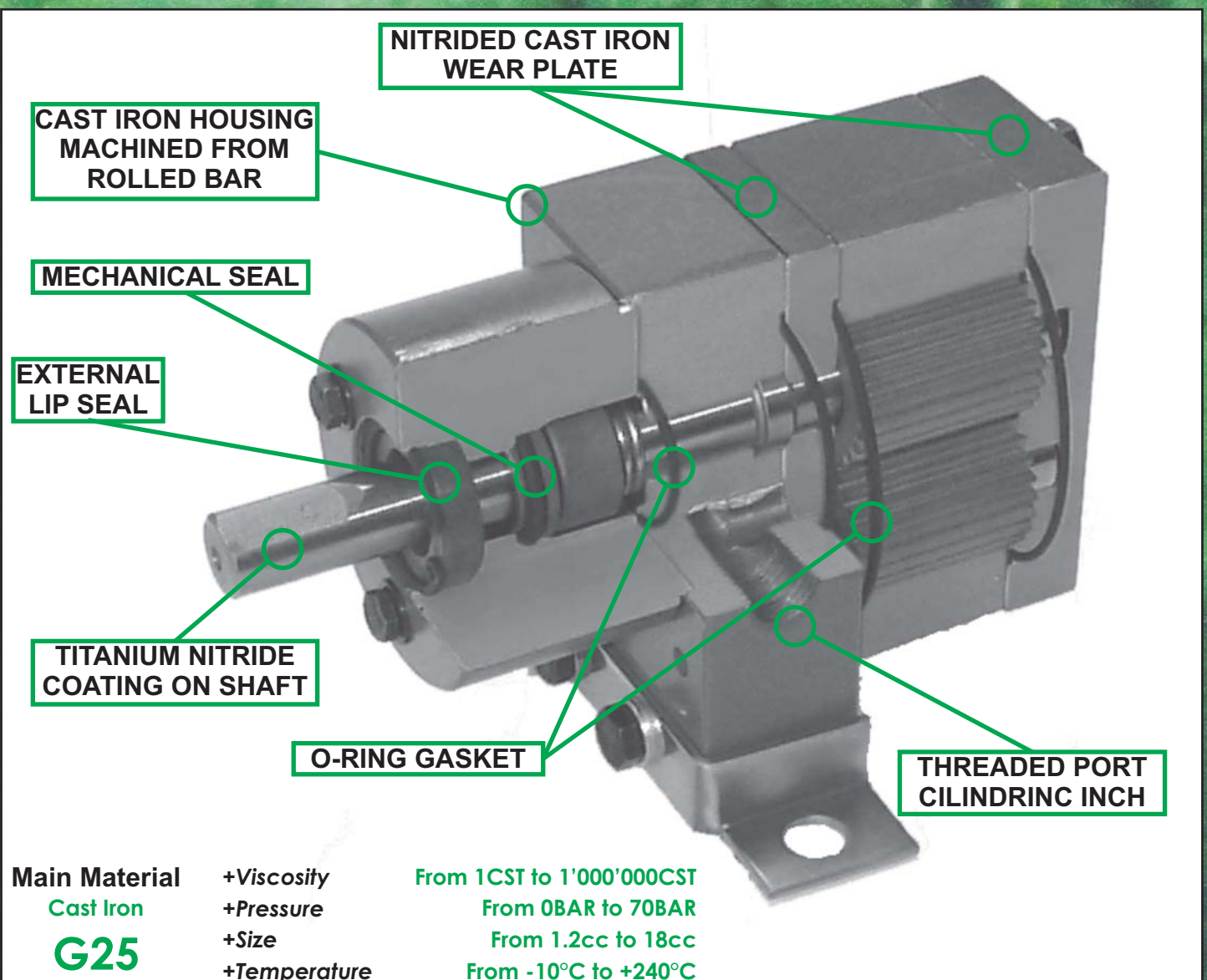
+Ports: The D-series inlet and outlet ports are threaded, are of the same diameter and are in-line (share the same axis). The flanges can be screwed.

+Hardened Materials: The D-series housing, cover plates and gear shafts are machined from rolled bar forgings as opposed to casting, which insures maximum hardness.

+ Complete Unit: The D-series can be supplied in different coupling configurations. Complete units consisting of a base-plate (not necessary for flange mounted motors), flexible coupling with guard and electric motor are available. 8-pole, 6-pole and 4-pole electric motors are available. Explosion proof motors, gear reducers, and variable speed drives are also available on request.

+Seals and Options: The D-series uses a simple and versatile mechanical seal design or magnetic coupling system. Heating options include electric or fluid (oil or steam) heating.

+Custom design: One strong point of our company is the capacity of develop custom solutions, especially couplings solutions, in few works days. For every custom designs are available section and outline drawing, realised with latest and updated CAD systems. If our standard product can't satisfy you request, we should project for you a special pumps!



TECHNICAL FEATURES

Housing (1,4,5)

Cast iron G25

The housing is machined from rolled bar forging that is cut, turned, machined and ground into its' final shape, thus ensuring maximum hardness as apposed to using cast parts.

Wear plate (2,3)

Nitrided Cast iron G25

Wear plate are machined from rolled-bar that is cut, turned, machined and grinded to final shape. Using parts machined from rolled-bar instead of parts from casting, guarantee the maximum hardness allowed by the material. To ensure extra resistance to wear, the plates are **Nitrurated**.

Gear & Shaft (6,7,8,9)

Steel 39NiCrMo3+TiN coating

Gear and shaft are machined from rolled-bar that is cut, turned, toothed and grinded to final shape. Using parts machined from rolled-bar instead of parts from casting, guarantee the maximum hardness allowed by the material. As standard, shafts receive extra resistance to wear and decreased friction via a **Titanium Nitride coating** on all surface.

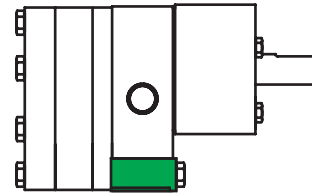
Sealing Elements (10,11,12)

FPM

To prevent leakage, any parts of the pump housing match the other with O-Rings seated between the two faces to guarantee sealing also in presence of low viscosity medium. Note that on D18 seal cover are used Plane gasket (13). According to API610 and PLAN13, shaft seal is ensured by one external lip seal and one mechanical seal.

D

Foot



The pump is provided with feet for mounting on a baseplate. Projected to be coupled to drive units form B3.

+Foot

Steel

NITRIDING PROCESS

Objective of nitriding is to increase the hardness of the component's surface by enriching it with the diffusion of nitrogen atoms into the metal's surface. Nitrogen is a colorless, odorless, tasteless and inert diatomic gas, constituting 78.1% by volume of Earth's atmosphere.

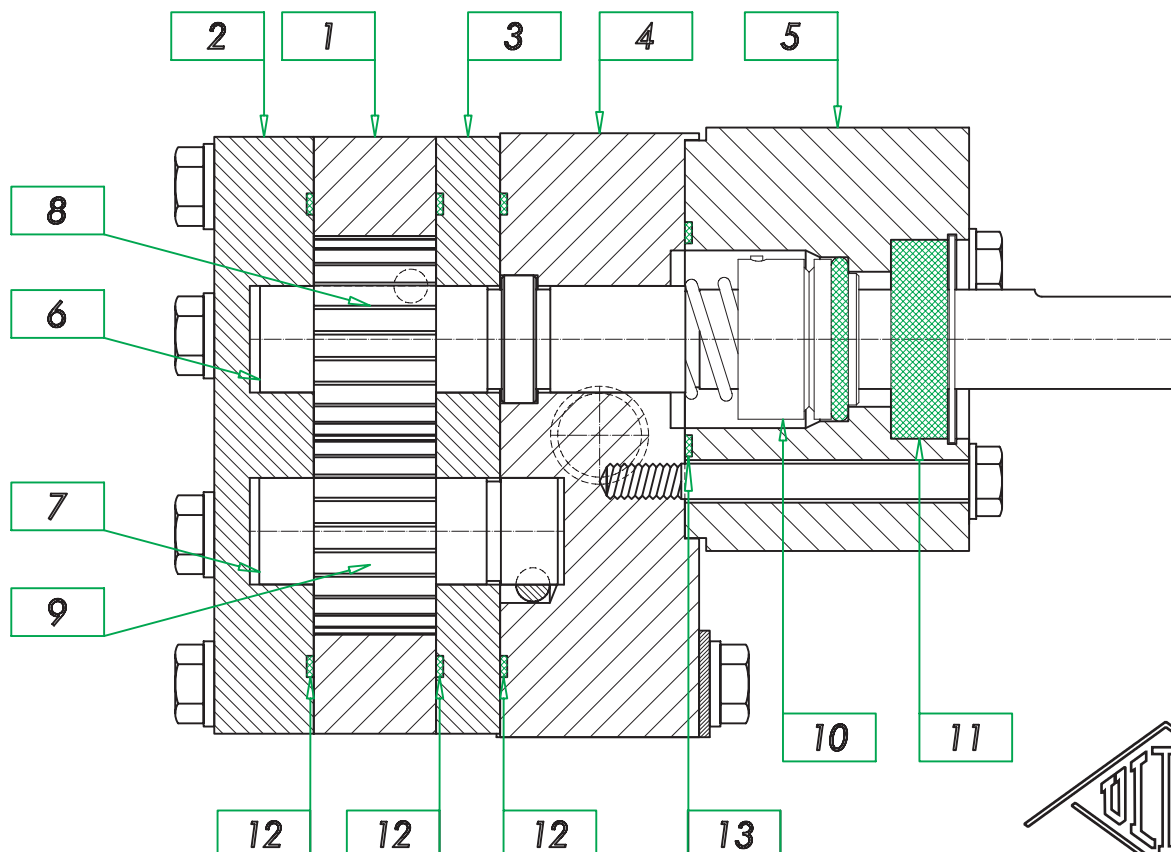
TITANIUM NITRIDE (TiN) COATING

Titanium Nitride (TiN) is the most common hard coating in use today. TiN has an excellent combination of performance properties as:

- +Wear resistance and extreme hardness, is harder than carbide.
- +Maintaining sharp edges or corners.
- +Prevent galling, and decreases friction.
- +Resistant to nearly all chemicals and also withstands high temperatures.



TiN coated Gear & Shaft

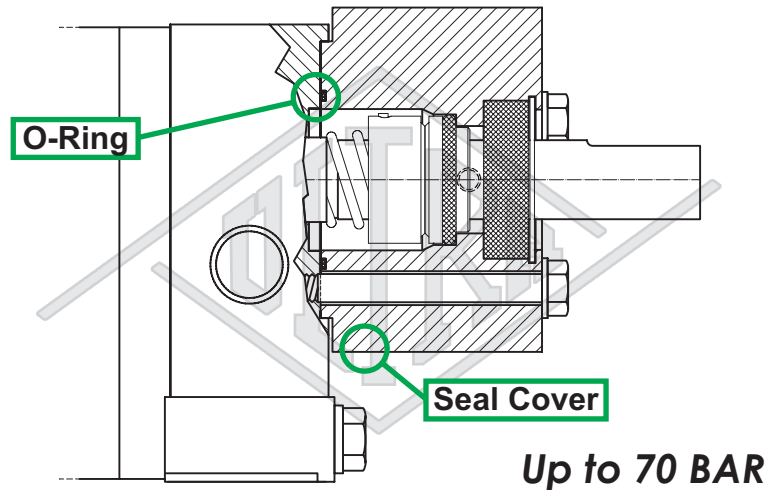


SHAFT SEAL

MECHANICAL SEAL (Standard)

V Sealing elements made of **FPM**
Features: According to API610 and PLAN13, **external lip seal** and **mechanical seal**. **SOLID CORROSION RESISTANT CARBIDES** and **SILICON CARBIDES** mechanical seals are for general uses, such as food, chemical product and so on. Particularly versatile and of easy mounting can be used when pumped fluids require the use of anticorrosion materials or work temperature is up to 240°C.

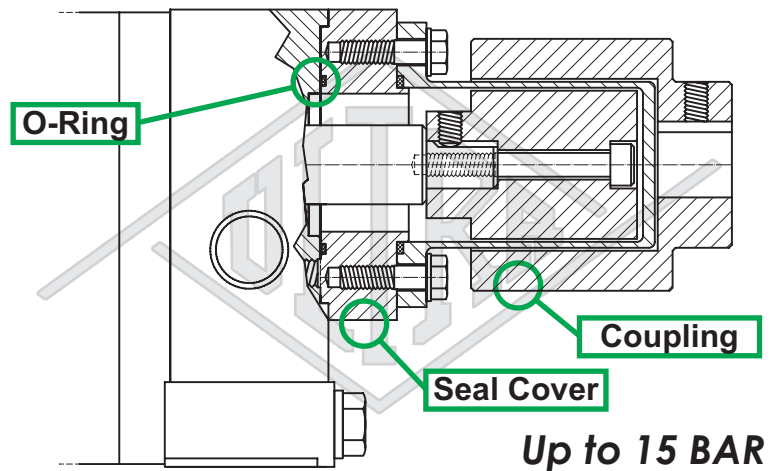
Maximum prussure: 70 BAR
Temperature: -10/+240°C
Work Sense: Clock wise



MAGNETIC COUPLING (Optional)

MV Sealing elements made of **FPM**
Features: The standard mechanical seal can be replaced by a **magnetic coupling** system that definitively eliminates seal leakage and wear in particularly harsh conditions. Magnetic coupling are synchronous coupling that transmits torque through magnetic forces between the internal and external rotor, but ensures a hermetic separation of the drive and the driven side via **STAINLESS STEEL** bell.

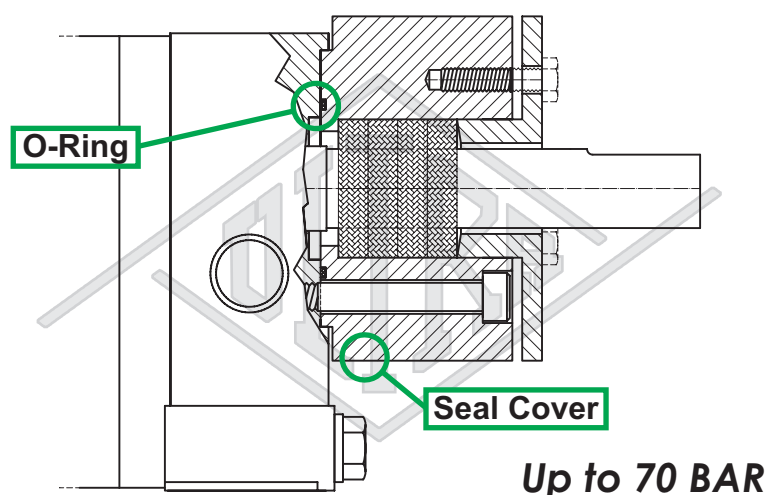
Maximum prussure: 15 BAR
Temperature: -30/+240°C
Work Sense: Bidirectional



PACKED GLAND SEAL (Optional)

DV Sealing elements made of **FPM**
Features: The **packed gland** is composed of 4 **packing gland rings** seated on the seal cover. This type of seal requires a high level of maintenance and is therefore discouraged in pump applications. Ultra strongly recommends the use of mechanical seals instead.

Maximum prussure: 70 BAR
Temperature: -10/+240°C
Work Sense: Bidirectional

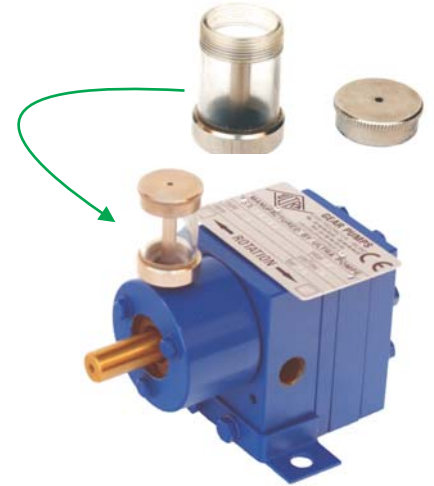
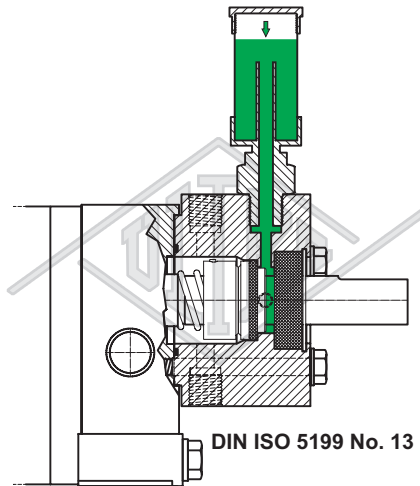


OPTIONAL

Quench dead end system

The pump is supplied with a transparent and ventilated reservoir positioned directly above the seal casing. Used when pumped fluid reacts with atmospheric oxygen, the quench medium stops the leakage making contact with the atmosphere. Quench applies a pressure less external fluid to mechanical seal's faces on the atmosphere side.

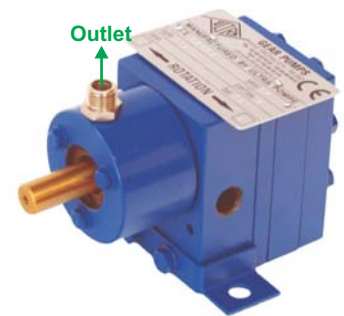
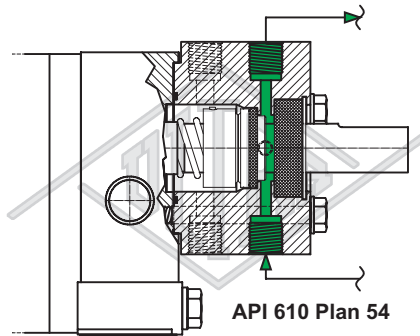
+Q



Plan 54 circulation system

The pump is supplied with two threaded holes on a seal casing that allows the circulation of a quenching medium from an external system. The system absorbs the mechanical seal leakage by the quenching medium.

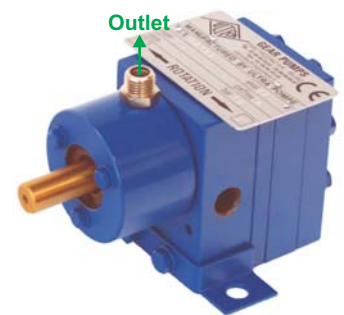
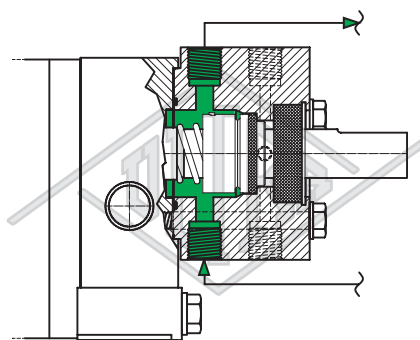
+P



Flushing system

The pump is supplied with flushing holes. The seal washing can be ensured by a "CIP cycle," that through internal channels and with an appropriate solvent pumped from an external system, removes pumped fluid residue.

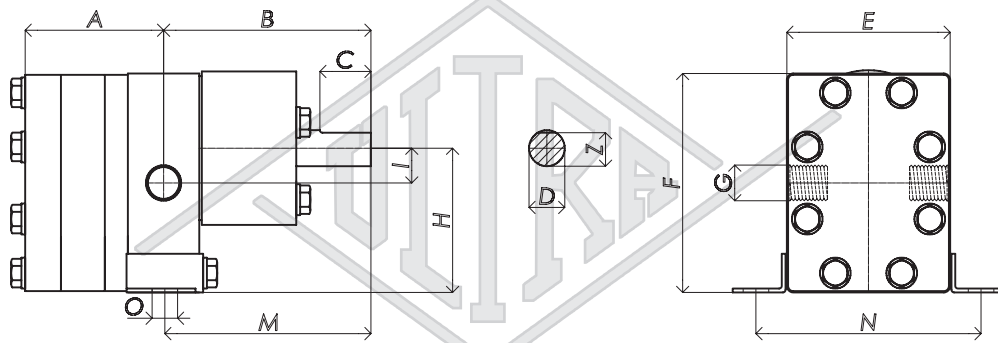
+F



Many combinations of options are available limited by the pump material and pump series. Note that some options change the envelope dimensions of the pump. Options can be combined, such as a quench system and oil heating system.

OUTLINE DRAWINGS

D-(Standard)

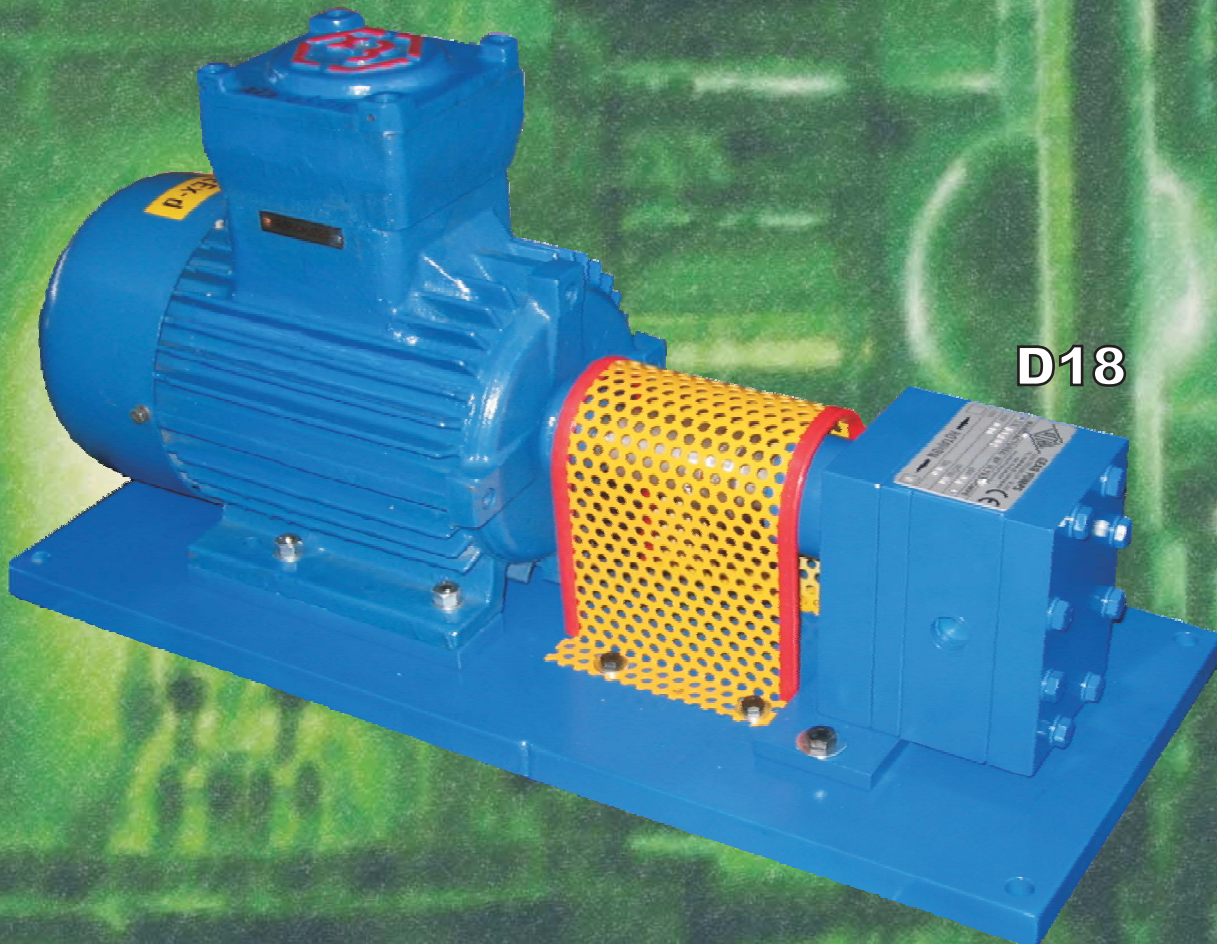


Size	A	B	C	D	E	F	G	H	I	M	N	O	Z
1.2	53	80	25	14	64	85	1/4"	56	13	80	85	9	13
3	65												
6	83												
18	50	132	25	14	96	146	1/2"	102	24	80	135	12	13

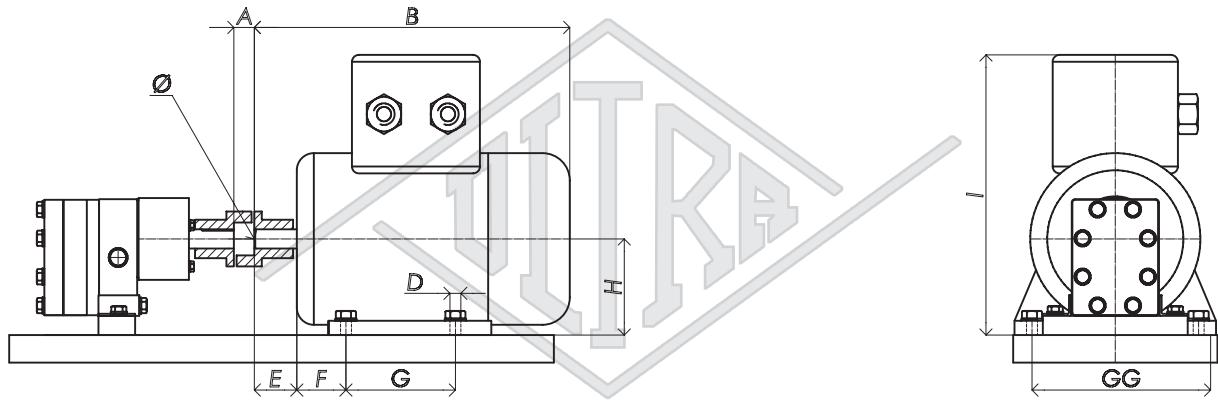
IMPORTANT NOTE

+Chosen dimensions: During the design phase we have tried to use dimensions that can easily match with standard components such as IEC motor dimensions.

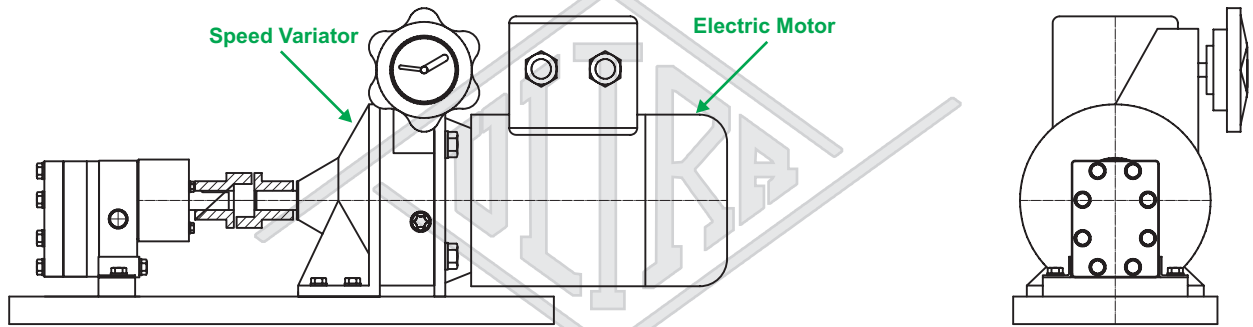
+ Disclaimer: Please note that all dimensions contained in this catalog are not binding. Please contact our office for detailed drawings.



Complete Unit D



Special Complete Unit D



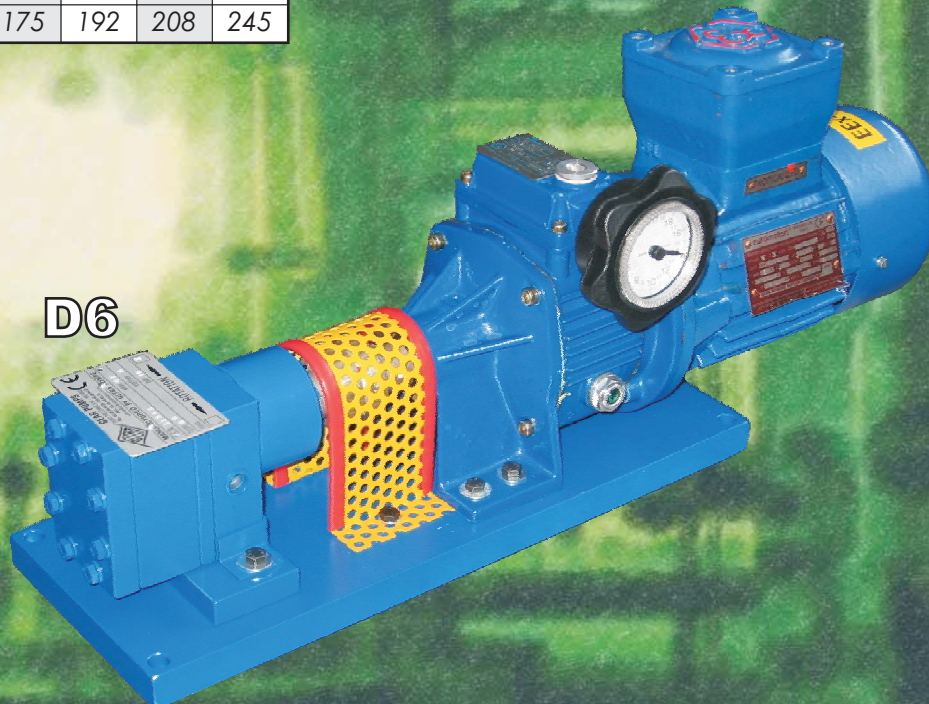
SIZE	Gr 56	Gr 63	Gr 71	Gr 80	Gr 90	Gr 100
A	16	16	16	16	16	18
B	198	206	234	264	302	367
D	6	7	7	10	10	12
E	20	23	30	40	50	60
\varnothing	9	11	14	19	24	28
F	36	40	45	50	56	63
G	71	80	90	100	125	140
GG	90	100	112	125	140	160
H	56	63	71	80	90	100
I	155	162	175	192	208	245

TORSIONALLY FLEXIBLE COUPLINGS

When pump is connected to the electric motor via a coupling, the dimension "A" is based on the size of the coupling model. This is determined by each coupling manufacturer. See manufacturer brochure for details.



D6

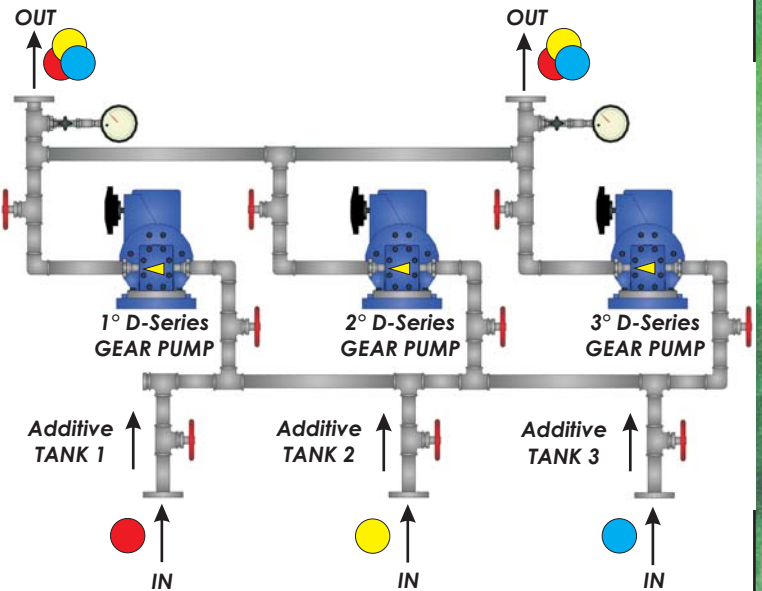
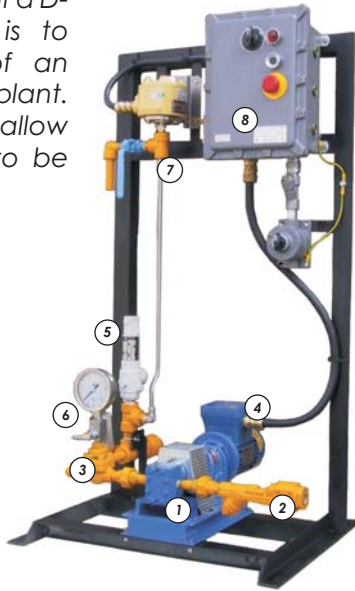


APPLICATIONS

Installation on Ink/Paint Metering Plant (D6V)

One of the best use of a D-series gear pump is to control the flow of an additive in a fuel plant. The small dimension allow this type of pump to be mounted in battery.

- 1-ULTRA gear pump
- 2-Suction line
- 3-Discharge line
- 4-Motor
- 5-Relief valve
- 6-Pressure gauge
- 7-Pressure switch
- 8-Control unit

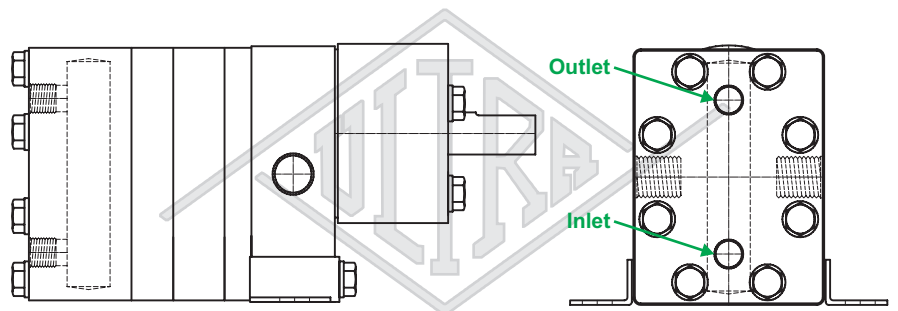


CUSTOM HEATING OPTION

Oil Heating system

The pump is supplied with an integrated heating system to provide the heating of the entire pump with hot oil or steam. Heating fluid is pumped by an external pump in the internal channels of the gear pump.

+OH



Electric Heating system

The pump is supplied with an integrated electric cartridge heating system to provide the heating of the entire pump.

PT100 Probes are probes which show a change in resistance with a change of temperature.

+EH

