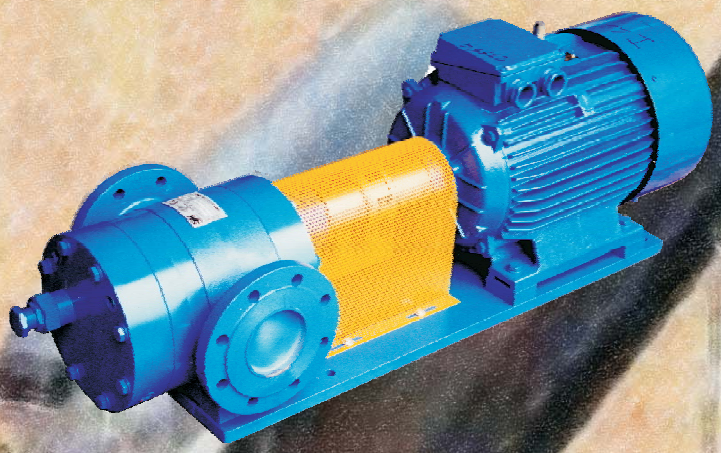
N SERIES



Metering & Thrust Gear Pumps

Cast Iron (G25)

Phone: ++39-0248464552, Fax: ++39-0248464544, E-mail: ultra@ultrapompe.it, Address: Via Goldoni 37, Trezzano S/N 20090, Milano, Italy

ULTRA

2007

ULTRA POMPE Srl

www.ultrapompe.it - www.ultrapompe.eu

GENERAL FEATURES

+Application: *The N-series is designed for metering, booster, vacuum extraction, lubrication and transfer of a great variety of fluids in any industrial application. More than forty years of experience and development are invested in this series.*

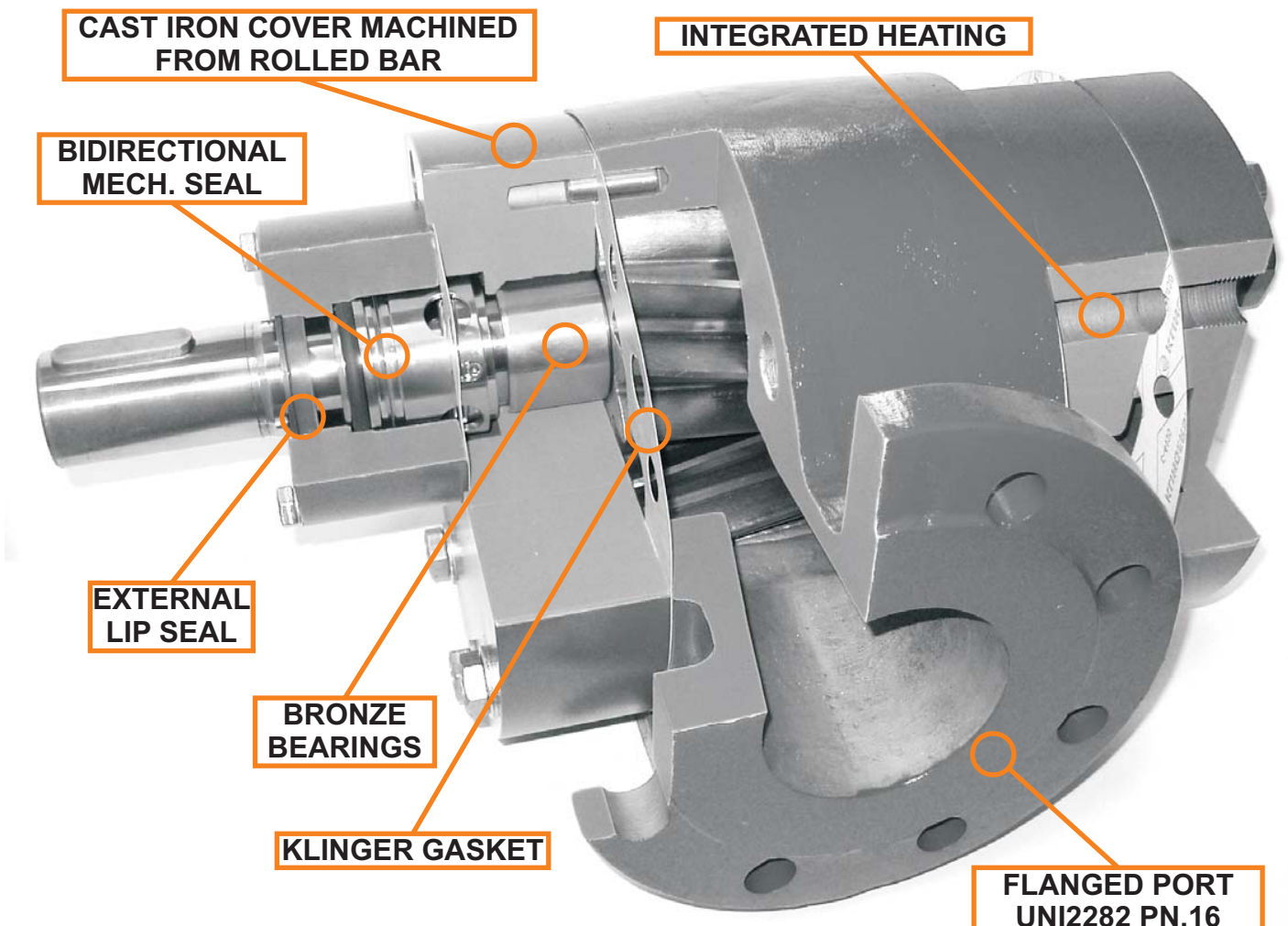
+Bidirectional: *The N-Series offers the best combination of quality versus price. This series of pumps can provide flow in either direction. However keep in mind that an internal or external relief valve can only be designed for a single flow direction.*

+Ports: *The N-series inlet and outlet ports are flange type (UNI2282 PN.16), are of the same diameter and are in-line (share the same axis).*

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

+Complete Unit: *The N-series can be supplied in different coupling configurations. Complete units consisting of a base plate (not required 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 N-series uses a simple and versatile mechanical seal design or magnetic coupling system. Heating options include electric or oil heating.*



Main Material
Cast Iron
G25

+Viscosity	From 1CST to 1'000'000CST
+Pressure	From 0BAR to 15BAR
+Size	From 375cc to 1330cc
+Temperature	From -10°C to +240°C

TECHNICAL FEATURES

Housing (1,2,3,4) **Cast iron G25**

The housing (except part 1) 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.

Rotors (5,6,7) **Steel 39NiCrMo3**

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

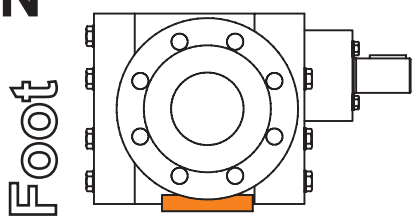
Bearings (8) **Bronze**

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

Sealing Elements (10,11,12,13) **FPM, PTFE or MVQ**

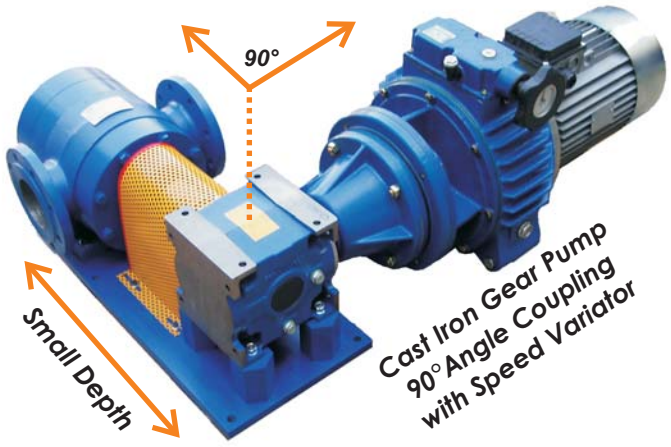
Plane gasket and O-Rings are used on all mating surfaces to reduce leakage even when pumping fluid of low viscosity.
The shaft is sealed with both an external lip seal and a bidirectional mechanical seal according to API610 and PLAN13. Dimensions are in accordance with DIN24960 and DIN3760.
Other optional materials and sealing systems are available on request.

N

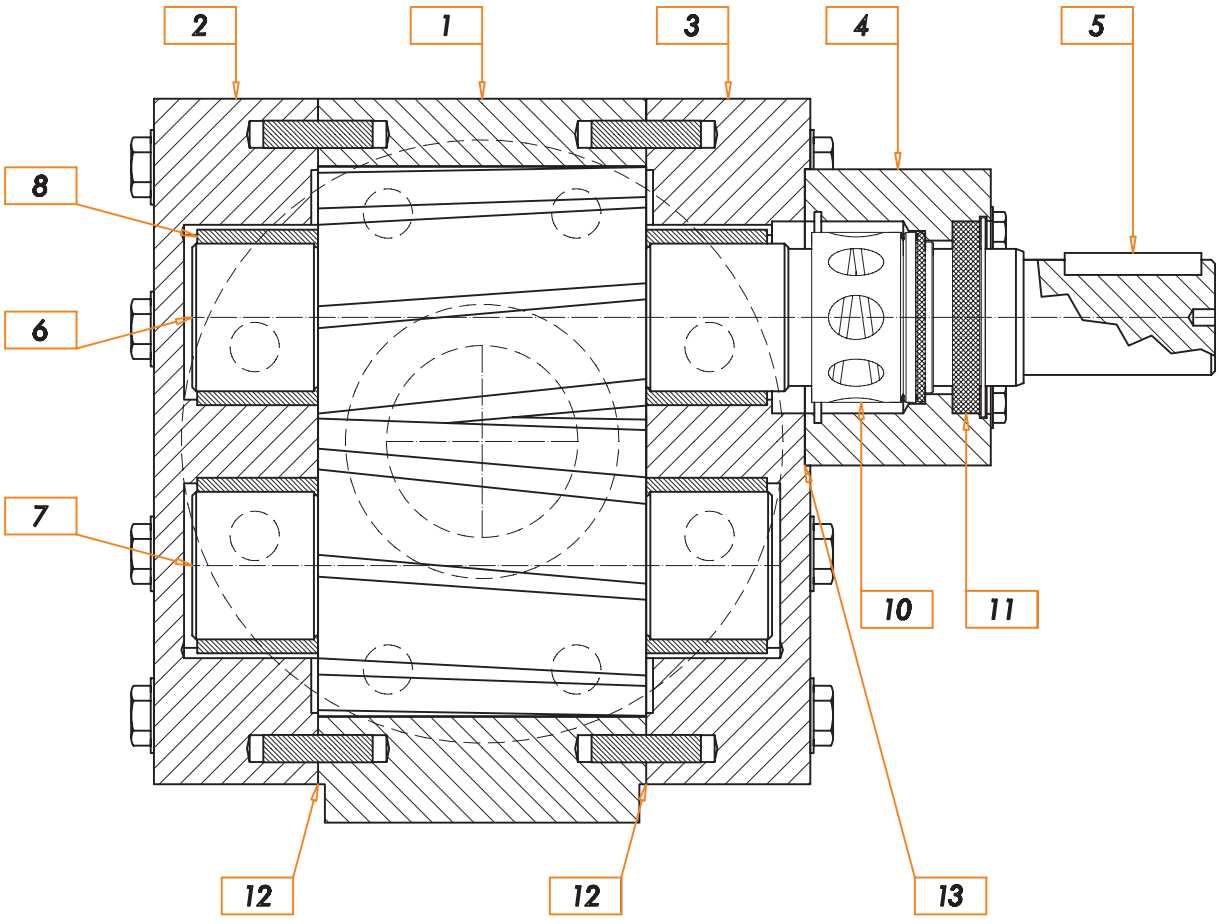


The pump is provided with one central foot for mounting on a baseplate.
Projected to be coupled to drive units form B3.

SPECIAL ASSEMBLY



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!



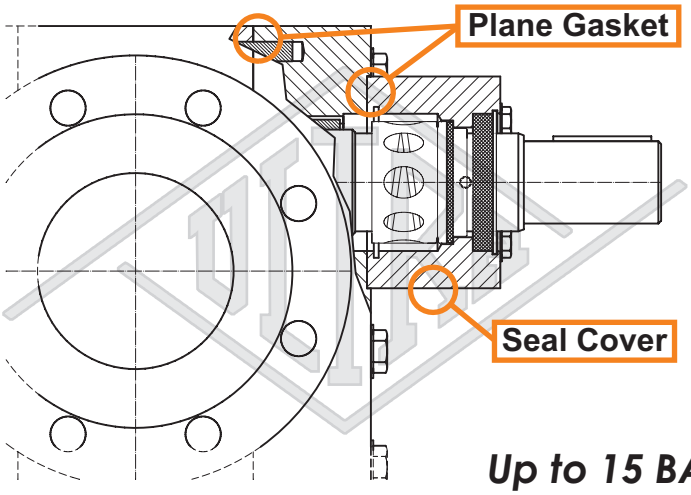
SHAFT SEAL

MECHANICAL SEAL (Standard)

V *Sealing elements made of* **FPM**
T *Sealing elements made of* **PTFE**
S *Sealing elements made of* **MVQ**

Features: *According to API610 and PLAN13,* ***external lip seal*** *and* ***bidirectional mechanical seal****, unaffected by the direction of shaft rotation. Dimension according to DIN24960 and DIN3760.* ***STAINLESS STEEL*** *and* ***CARBON GRAPHITE*** *mechanical seals are first choice for all such applications where pumped fluid doesn't have any oxidative property and work temperature is under 150°C.*

Maximum prussure: *15 BAR*
Temperature: *-10/+240°C*
Work Sense: *Bidirectional*

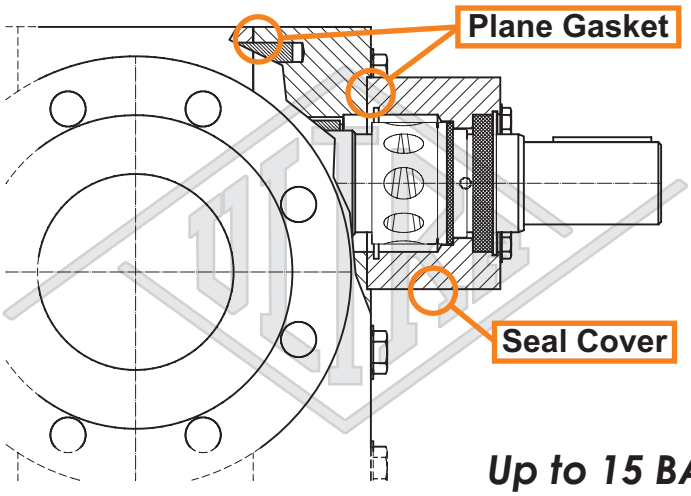


MECHANICAL SEAL "K" (Optional)

KV *Sealing elements made of* **FPM**
KT *Sealing elements made of* **PTFE**
KS *Sealing elements made of* **MVQ**

Features: *According to API610 and PLAN13,* ***external lip seal*** *and* ***bidirectional mechanical seal****, unaffected by the direction of shaft rotation. Dimensions according to DIN24960 and DIN3760.* ***BRAZED TUNGSTEN CARBIDES*** *on* ***STAINLESS STEEL*** *mechanical seals are used when pumped fluids require the use of anticorrosion materials or work temperature is up to 240°C.*

Maximum prussure: *15 BAR*
Temperature: *-10/+240°C*
Work Sense: *Bidirectional*

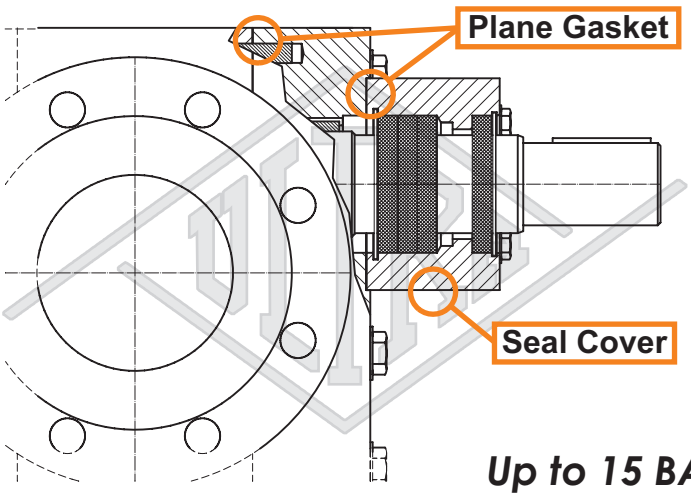


LIP SEAL (Optional)

AV *Sealing elements made of* **FPM**
AT *Sealing elements made of* **PTFE**
AS *Sealing elements made of* **MVQ**

Features: ***Multiple lip seals*** *are chosen in accordance with DIN3760 GP type, coated internally with FPM, PTFE or MVQ with a supplementary dust lip for particularly dusty environments. Also available in other materials.*

Maximum prussure: *15 BAR*
Temperature: *-10/+240°C*
Work Sense: *Bidirectional*



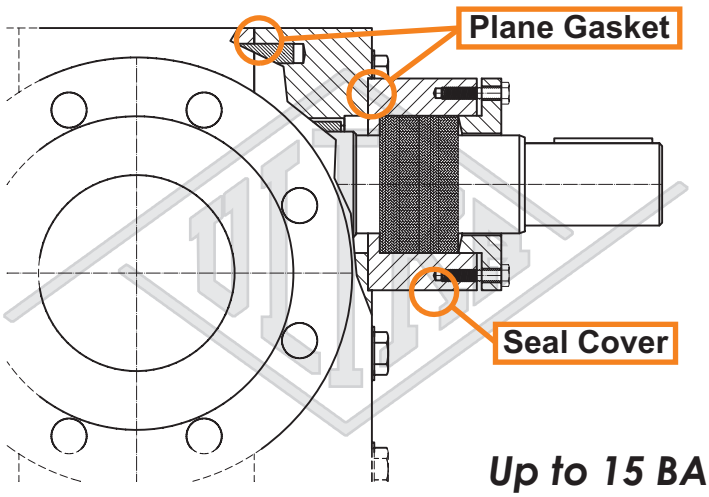
SHAFT SEAL

PACKED GLAND SEAL (Optional)

DV *Sealing elements made of* **FPM**
DT *Sealing elements made of* **PTFE**
DS *Sealing elements made of* **MVQ**

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: *15 BAR*
Temperature: *-10/+240°C*
Work Sense: *Bidirectional*



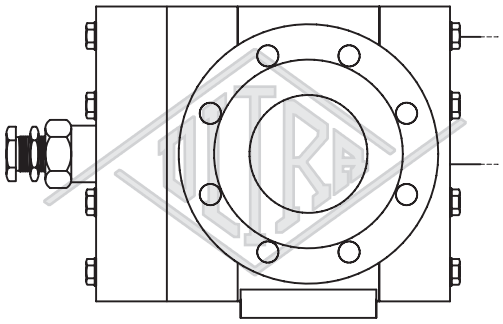
Up to 15 BAR

OPTIONAL

Bypass valve

The pump is supplied with an internal recirculation relief valve (by-pass) that is designed to protect the pump from damage that can be caused by overpressure.

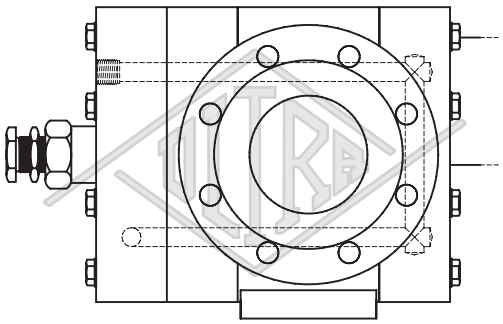
+B



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.

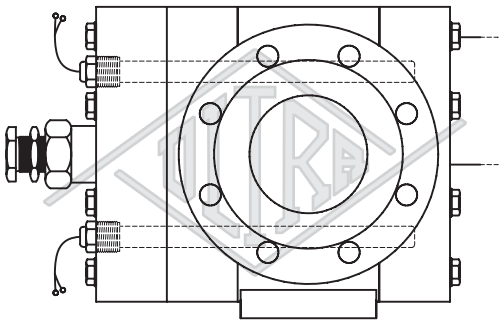
+OH



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

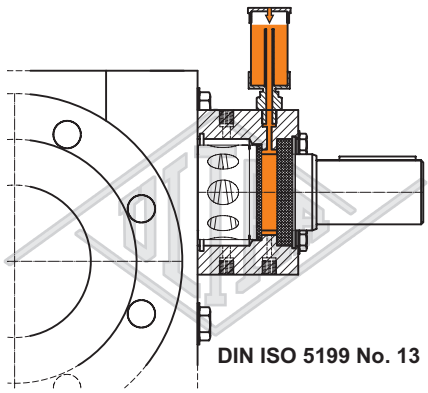


OPTIONAL

Quench deaded 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

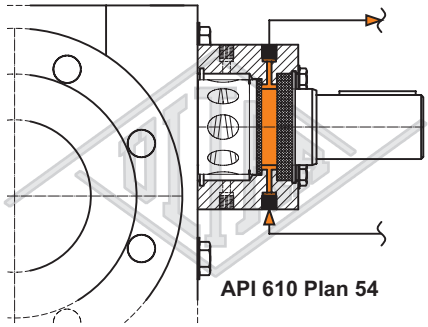


DIN ISO 5199 No. 13

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

+P

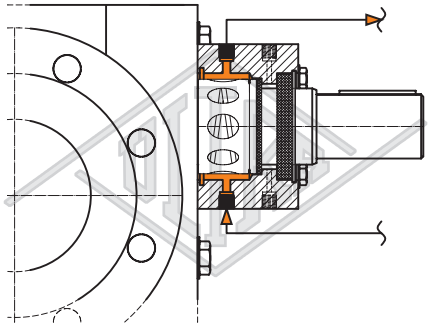


API 610 Plan 54

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.

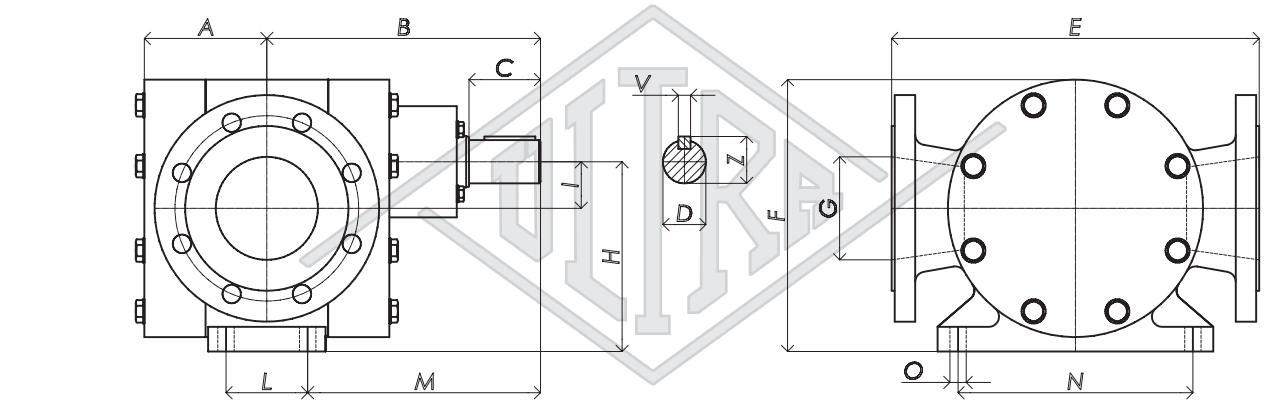
+F



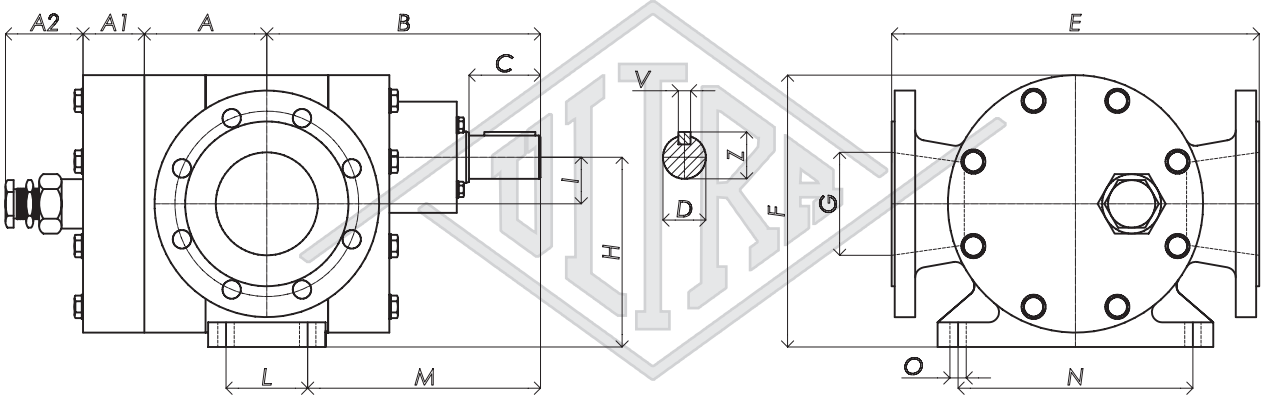
Many combinations of options are available limited by the pump material and pump series. Note that some options change the envelope dimensions of the pump. Options can be combined, such as a bypass system and oil heating system.

OUTLINE DRAWINGS

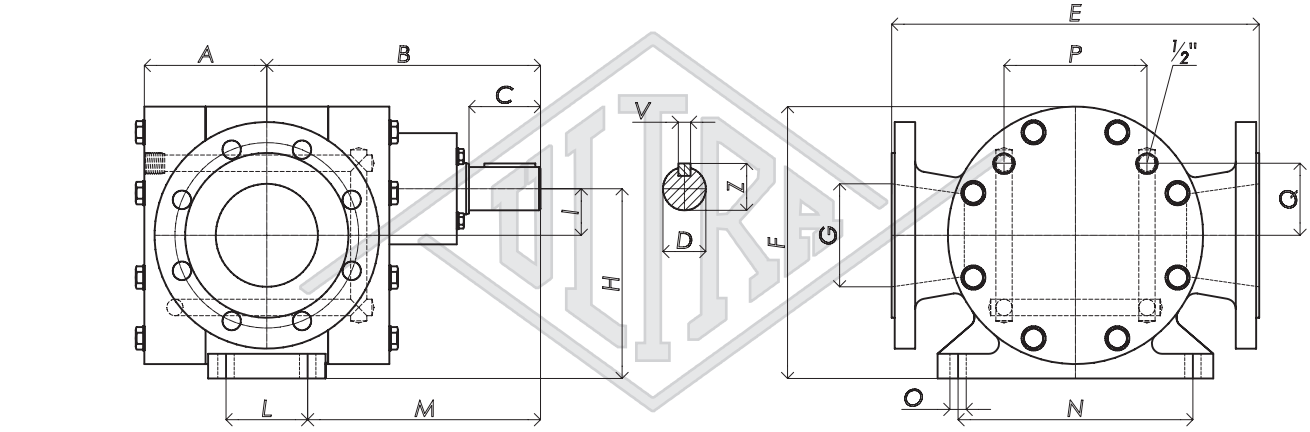
N-(Standard)



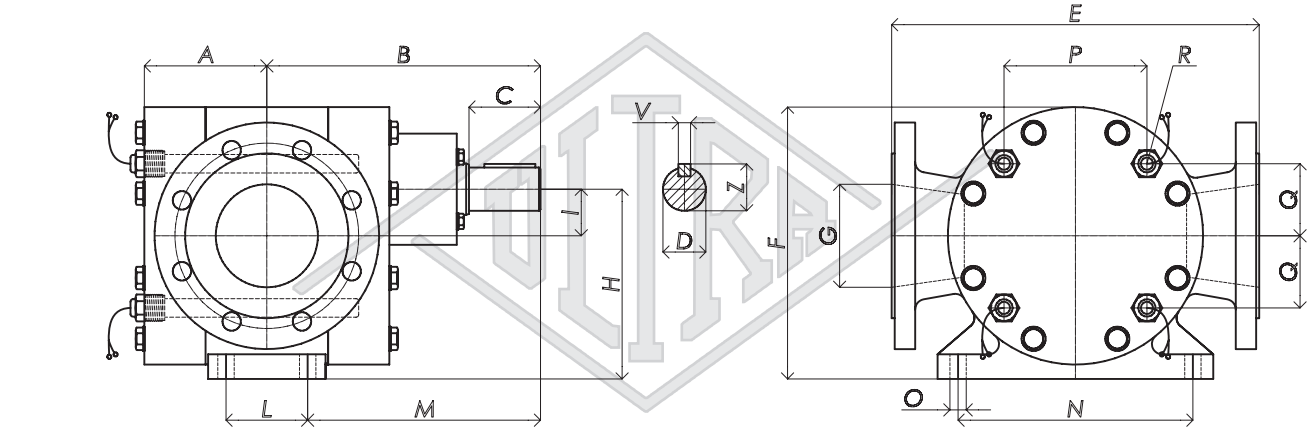
N-B



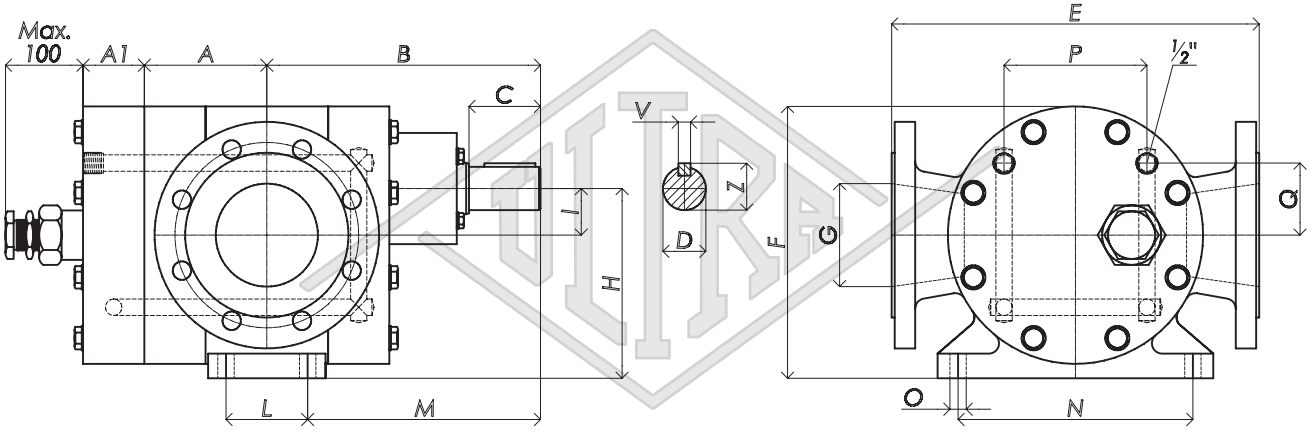
N-OH



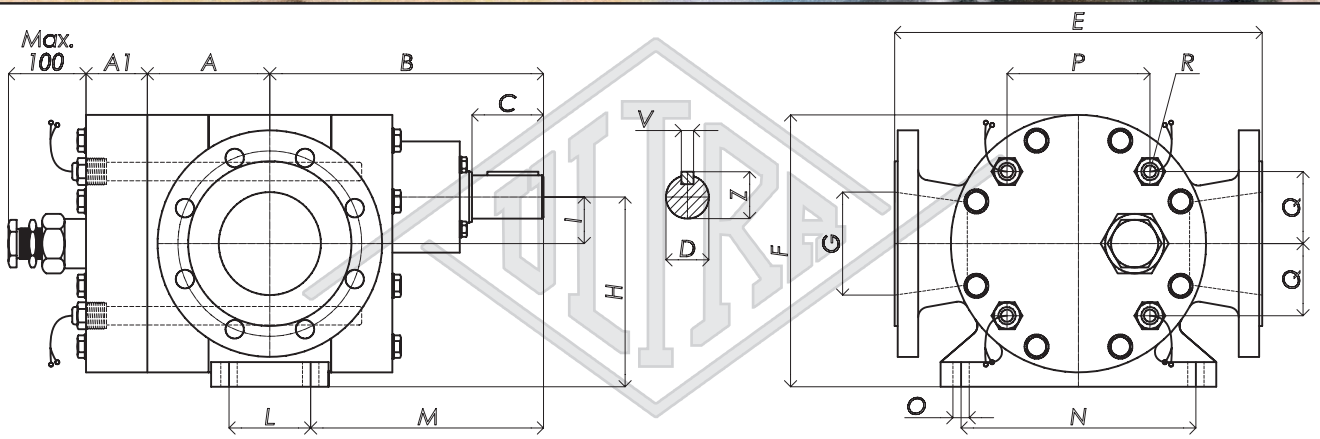
N-EH



N-BOH

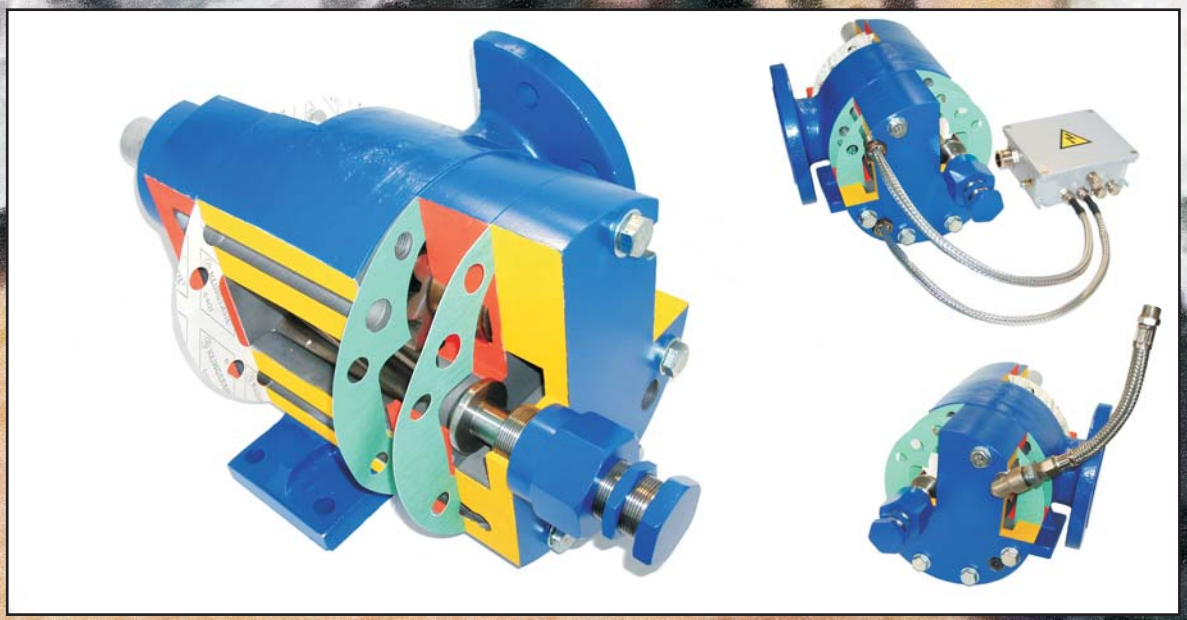


N-BEH



Size	A	A1	B	C	D	E	F	G	H	I	L	M	N	O	P	Q	R
460	119	40	224	60	38	310	220	3" Dn80Pn16	150	37	70	189	195	14	118	59	½"
636	120	60	268	70	42	370	265	4" Dn100Pn16	184	45	80	228	230	16	140	70	¾"
863	162																
1330	161	60	324	80	48	410	275	5" Dn125Pn16	200	49	150	249	240	16	150	70	¾"

Size	V	Z
460	10	41.5
636	12	45.5
863		
1330	14	52

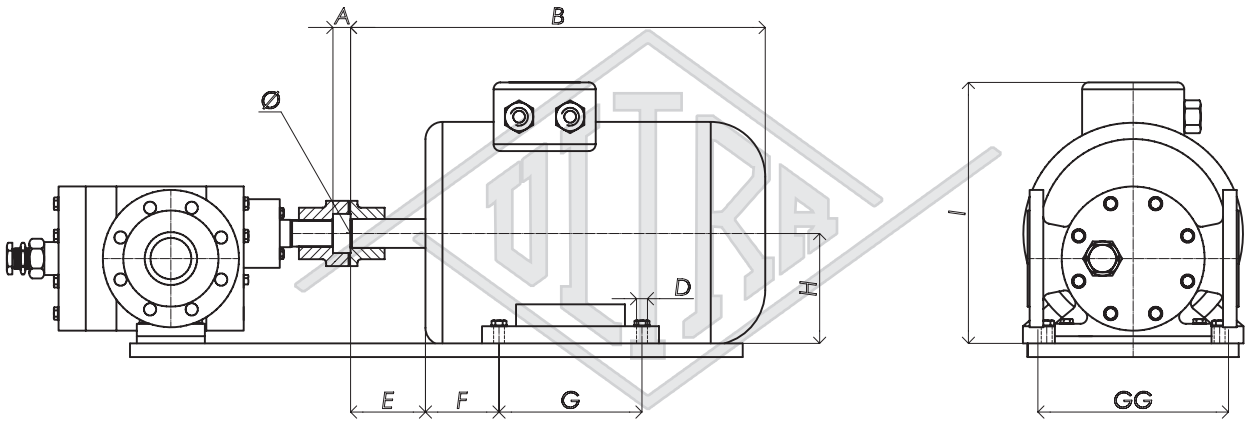


IMPORTANT NOTE

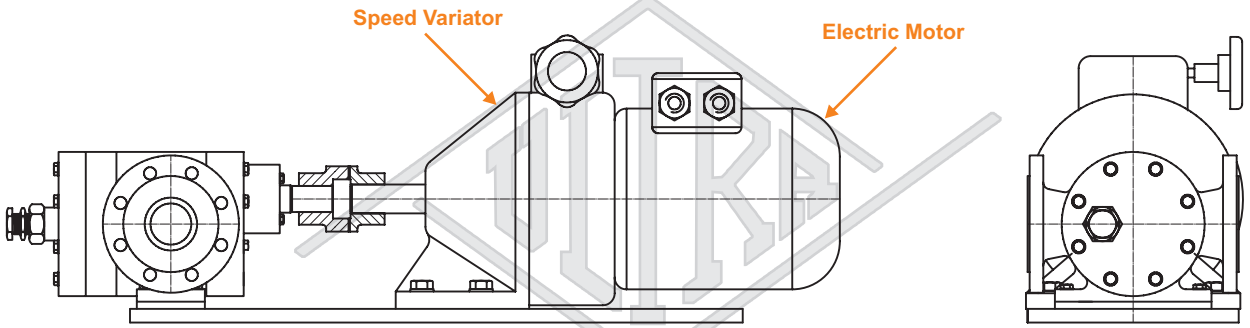
+Chosen dimensions: *During the design phase we have tried to use dimensions that can easily match with standard components such as IEC motor dimensions.*

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

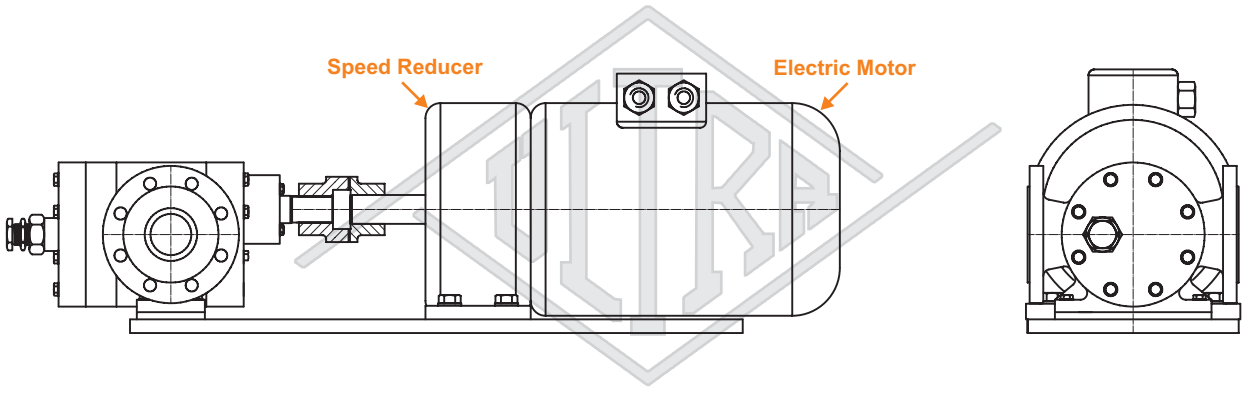
Complete Unit



Special Complete Unit



Special Complete Unit



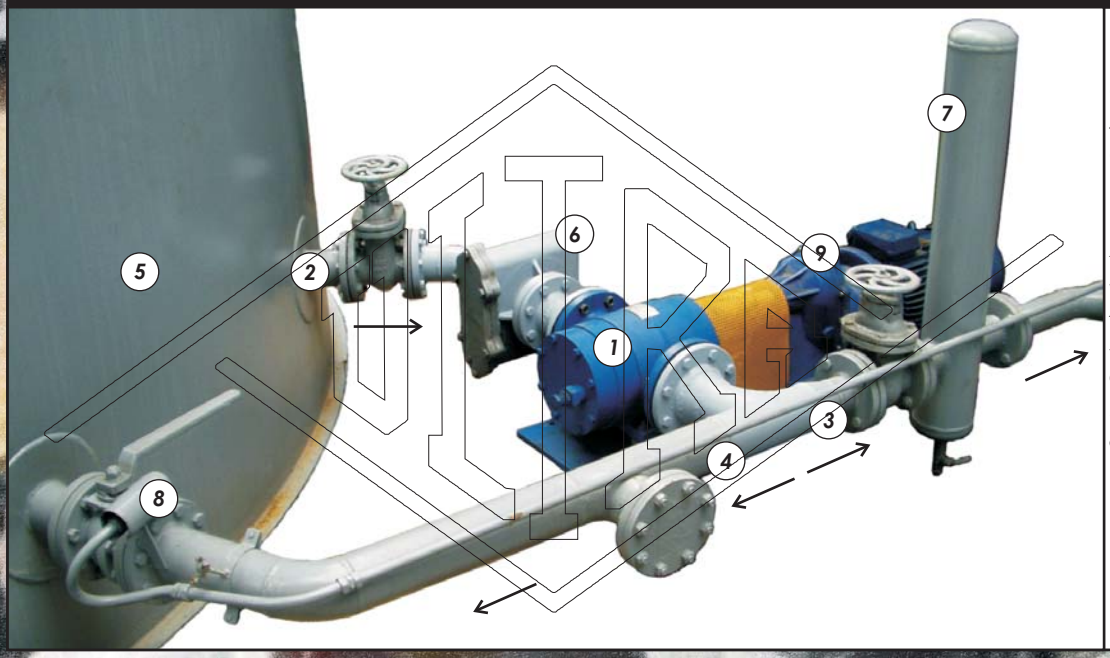
SIZE	Gr 132	Gr 160	Gr 180	Gr 200	Gr 225	Pump SIZE
A	26	26	26	NA	NA	460
	NA	26	26	26	28	636 863
	NA	26	26	26	28	1330
B	483	653	697	779	817	
C	NA	NA	NA	NA	NA	
D	10	15	15	19	19	
E	80	110	110	110	140	
Ø	38	42	48	55	60	
F	89	108	121	133	179	
G	178	254	279	305	286	
GG	216	254	279	318	356	
H	132	160	180	200	225	
I	312	380	412	457	476	

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.

APPLICATIONS

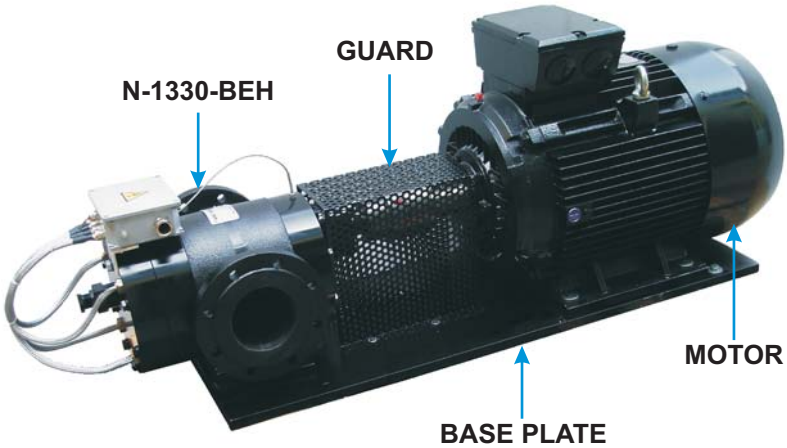
Installation on OIL THRUST PLANT



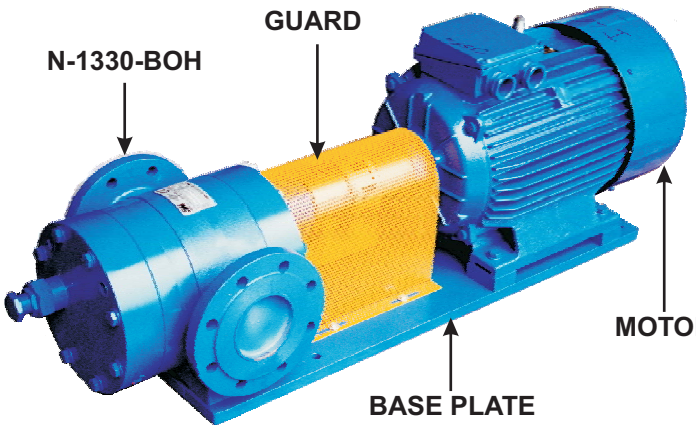
*One **N-series** gear pump type **N-1330-B**, complete of electric motor and speed reducer, installed on a oil thrust plant.*

1-Gear pump
2-Suction line
3-Discharge line
4-Recirculation line
5-Oil cistern
6-Oil filter
7-Over pressure valve
8-Idraulic valve
9-Drive unit

Electric Heating

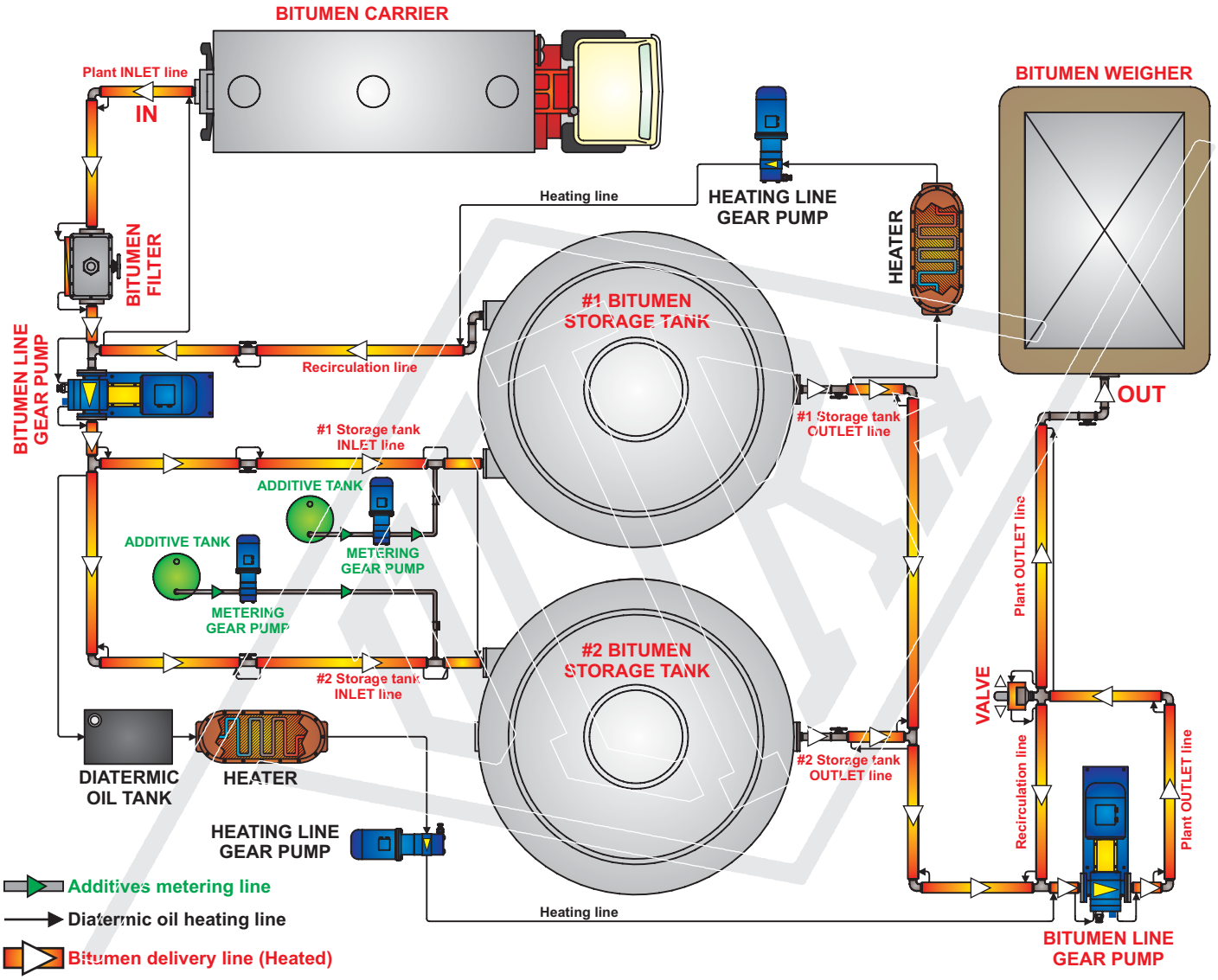


Oil Heating



APPLICATIONS

Installation on BITUMEN PLANT



*An Ultra gear pump can be used in multiple ways in a **bitumen plant**. In the drawing shown above, two gear pumps of type **N-1330-BOH** are used as metering pumps for the bitumen and the G-series gear pumps provide the heating of the plant. An additional metering system is added on each storage tank inlet line. The metering operation is driven by two small G-series gear pumps. Note that an electric heating can be used instead of an oil heating design.*

***What bitumen is?** Bitumen is a mixture of organic liquids that are highly viscous, black, sticky, and composed primarily of highly condensed polycyclic aromatic hydrocarbons. Bitumen is the residual (bottom) fraction obtained by fractional distillation of crude oil. Bitumen is is primarily used for paving roads but also to waterproof boats, and even as a coating for buildings. The word 'asphalt' or 'asphalt cement' refers to a mixture of mineral aggregate and bitumen and is the generic term for road surfaces.*