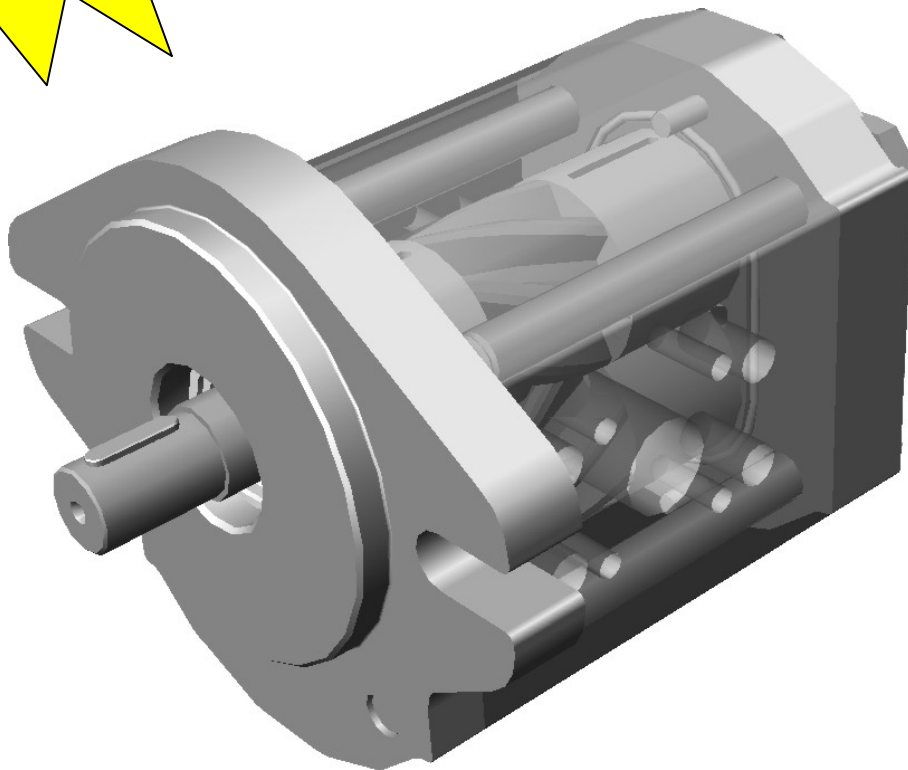


SETTIMA MECCANICA

Pump your business

New



250 bar program

COMPANY
WITH QUALITY SYSTEM
CERTIFIED BY DNV
=ISO 9001/2000=



Continuum ® pumps – series 2V

Dry helicoidal rotor pumps for high pressure low noise industrial application

Patent pending EP 1132618, EP 1291526, EP 02425384.1, US 280350 by M. A. Morselli – Exclusive Licensee Settima Meccanica

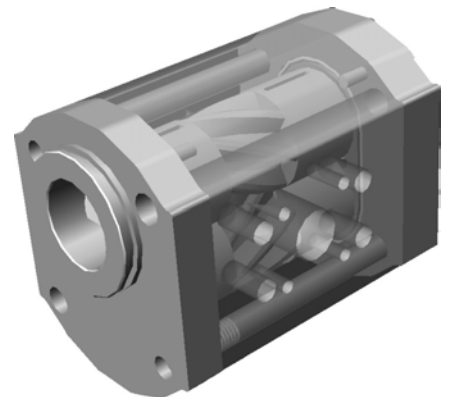


The people behind the Settima pumps



The SETTIMA MECCANICA adventure started in early 1978, with the ideas and the energy of an engineer having the dream to produce reliable, high technology and low costs screw pumps, in order to set up an entrepreneurial activity able to create new jobs. The company started with one employee and with the supply of a unique lift power unit manufacturer. Believing in the potential of his people, in the technology innovation and research, SETTIMA walked through the market, letting his team and his company grow.

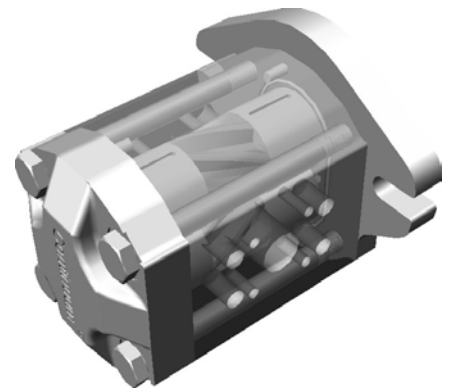
Now SETTIMA is the European leader in screw pumps for lift and elevator, having literally more than 500.000 of installation. The company involves in the production more than 30 companies and produces tens of thousands of pumps per year. The SETTIMA products are sold around the entire world and are the highest quality and cheaper on the market. The SETTIMA's wealth are the employed team and all the people co-operating with them.



The Continuum® project



The project started in 1999, believing in an impressive idea of Mr. Morselli, a respected engineer with many patents already to his credits. Mr. Morselli designed a new pumps with continuous intermeshing, no-leaking rotors. SETTIMA's team believed in the revolutionary concept and the development started. Now there are the results.



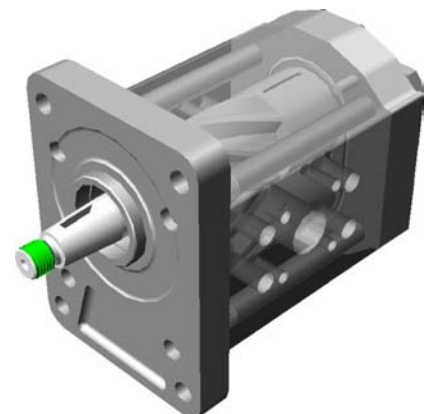
Technology innovation for HIGH pressure with really LOW noise

The Continuum® project is based on three patented (*) concepts:

- the **special Continuum® rotors profile**
- the **screw step**
- the **force balancing** within the pump system

These concepts generated a pump with:

- the **smallest** pressure ripple in the market
- the **best sound** in the market



(*) Patent pending EP 1132618, EP 1291526, EP 02425384.1, US 280350 by M. A. Morselli – Exclusive Licensee Settima Meccanica



Pressure pulsation and noise: a new concept

The **present architecture** of high pressure pumps typically has the following point of weakness:

- rooms of compressed oil between gears

The above implies:

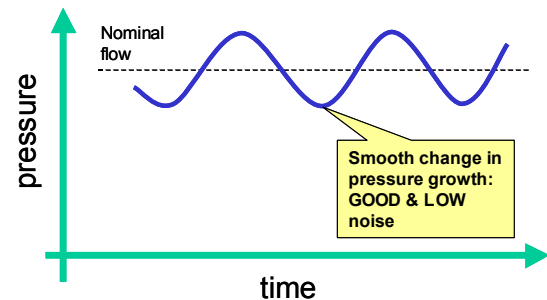
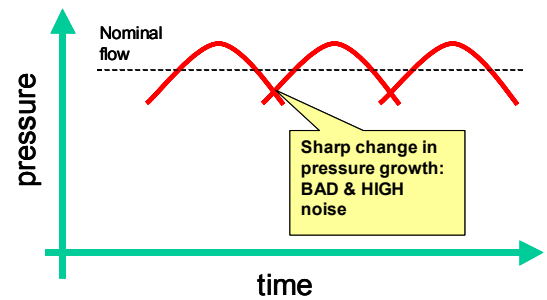
- sharp changes in pressure growth (see red "bad" noise pressure curve)
- BAD & HIGH** noise (starting from 1.500 rpm)

These **continuum** design concepts are based on the target to have:

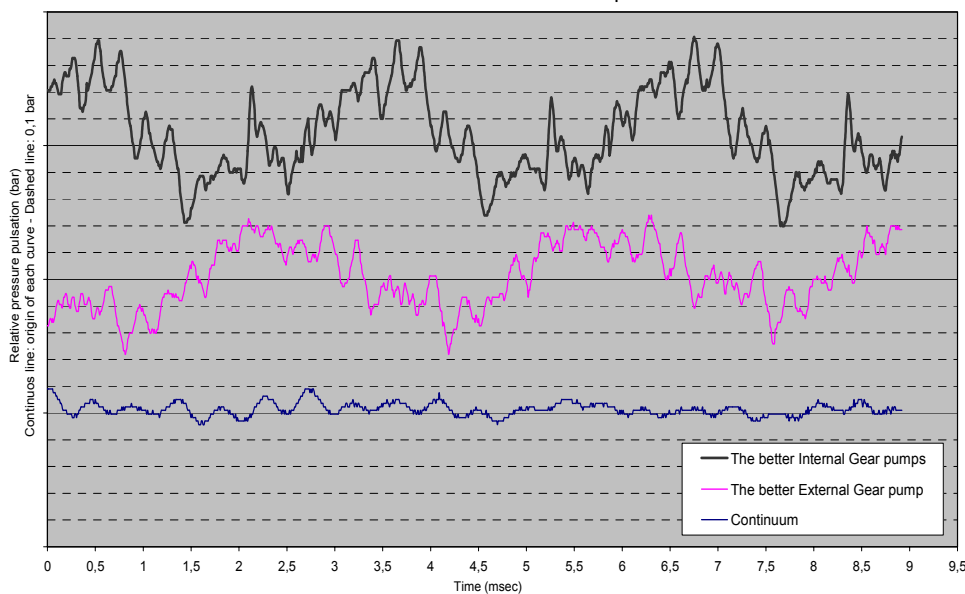
- NO** rooms of compressed oil between gears.

The above implies:

- smooth changes in the pressure growth
- GOOD & LOW** noise (up to 5.000 rpm)

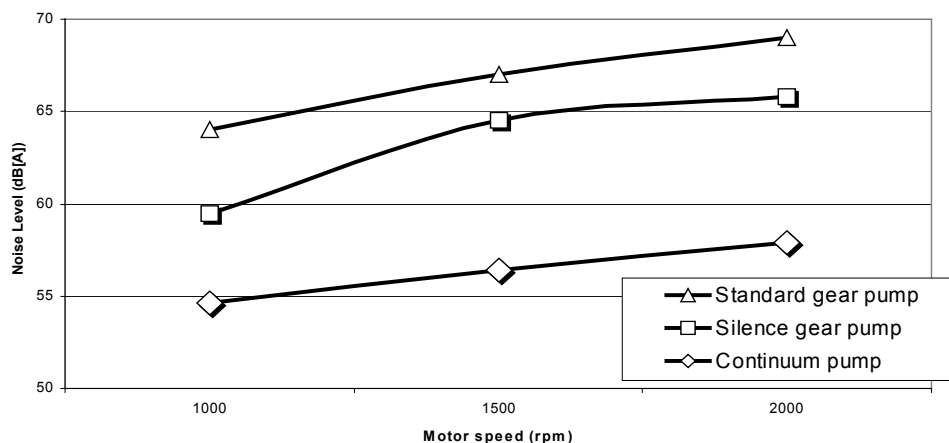


Test Environment: 100bar - 46 cSt - 1.500 rpm



The **pressure ripple** laboratory test (see figure on left) shows the impressive improvement of the pressure ripple in a **continuum**® designed pump (pressure sampling at 110 KHz).

High pressure pumps - laboratory test results - Comparison



The **noise** laboratory test (see figure on left) shows the impressive improvement of the noise curve in a **continuum**® designed pump.



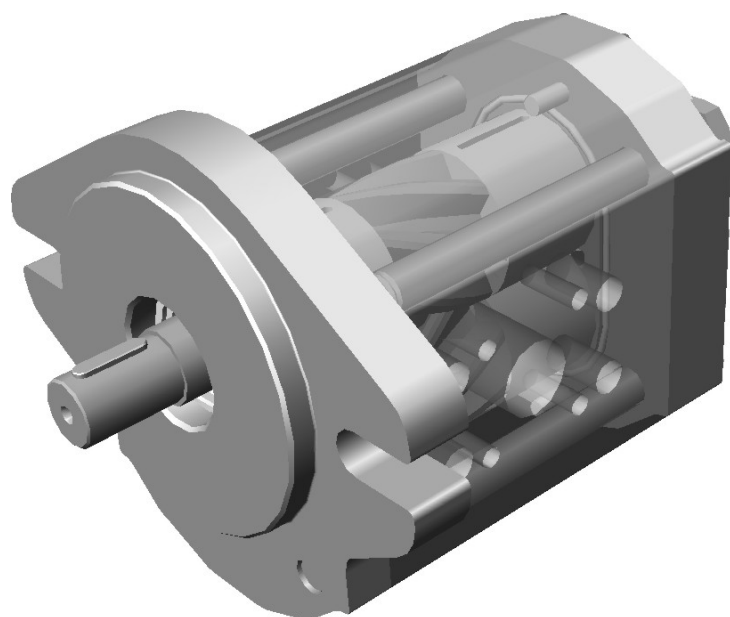
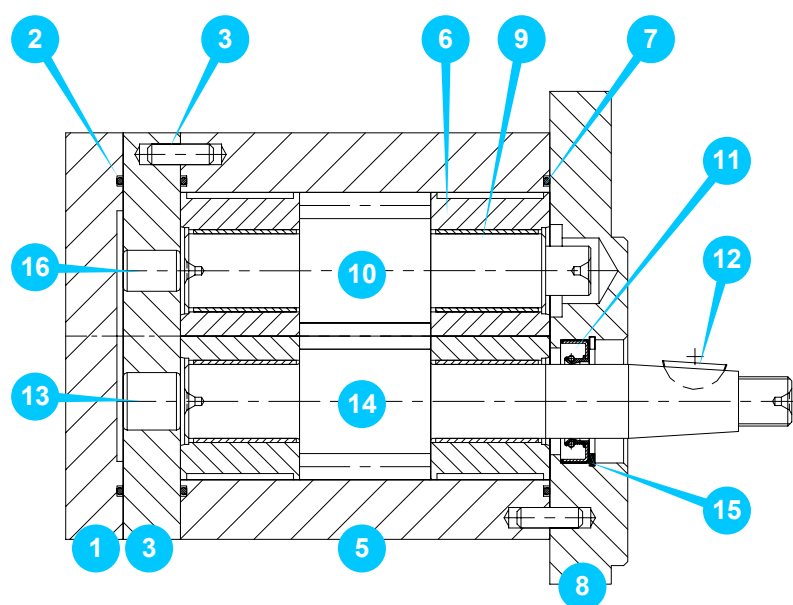
Detailed technical information

<i>Models available</i>	GR28 – GR33 – GR38 – GR47 – GR55 – GR70
<i>Flanges</i>	Group 1 – Group 2 (European, German, BKT, SAE-A) – Group 3 (European, SAE-B)
<i>Connections</i>	GAS – SAE 3000
<i>Installation position</i>	External
<i>Shaft rotation</i>	Clockwise
<i>Shaft speed</i>	Up to 3.600 rpm
<i>Displacements – Flows</i>	From 6 up to 184 cm ³ From 9L/min up to 264L/min (at 1.500 rpm)
<i>Operating pressure (*)</i>	<ul style="list-style-type: none"> Continuous: 240 bar Cycle ON/OFF: 250 bar Peak: 280 bar
<i>Inlet pressure</i>	0,8 – 2 bar
<i>Fluids</i>	<ul style="list-style-type: none"> Mineral oil HLP e HLVP Ecologic fluids HETG-HEPG-HEE Synthetic fluid or emulsion: (**) <ul style="list-style-type: none"> HFA oil-water emulsion – oil minimum 20% HFB water-oil emulsion – oil minimum 20% HFDR phosphate ester Lubrification oils high viscosity (**) Special synthetic fluid: MIL-H, SKYDROL, special on request
<i>Viscosity</i>	<ul style="list-style-type: none"> Permissible (**): from 12 up to 800 mm²/s [cSt] Recommended: from 20 up to 150 mm²/s [cSt] Starting conditions (**): up to 2.000 mm²/s [cSt]
<i>Environment temperature</i>	From -15° up to +60°C
<i>Hydraulic temperature</i>	From -15° up to +80°C
<i>Filtration</i>	<ul style="list-style-type: none"> Suction side: 60 µm Pressure side: from 10 to 25 µm
<i>Seals</i>	NBR, VITON, FPM, EPDM – Special on request
<i>Noise</i>	from 52 up to 68 dB(A) at 2.750 rpm Value based on ISO 4412 test procedure
<i>Pump body (standard)</i>	Extruded aluminium alloy
<i>Screw</i>	Case hardened grinded steel
<i>Maintenance</i>	No

(*) Test executed with Oil ISO VG46 – 10µm filtration
(**) Please contact the company to have further details



Component description



1	Flange
2	O-ring seal
3	Flange
4	Centring key
5	Body
6	Bushings
7	O-ring seal
8	Motor flange
9	Bushings
10	Continuum® rotor
11	Seal
12	Shaft key
13	Piston
14	Continuum® rotor
15	Seeger
16	Piston



Performances – series 2V

Models available

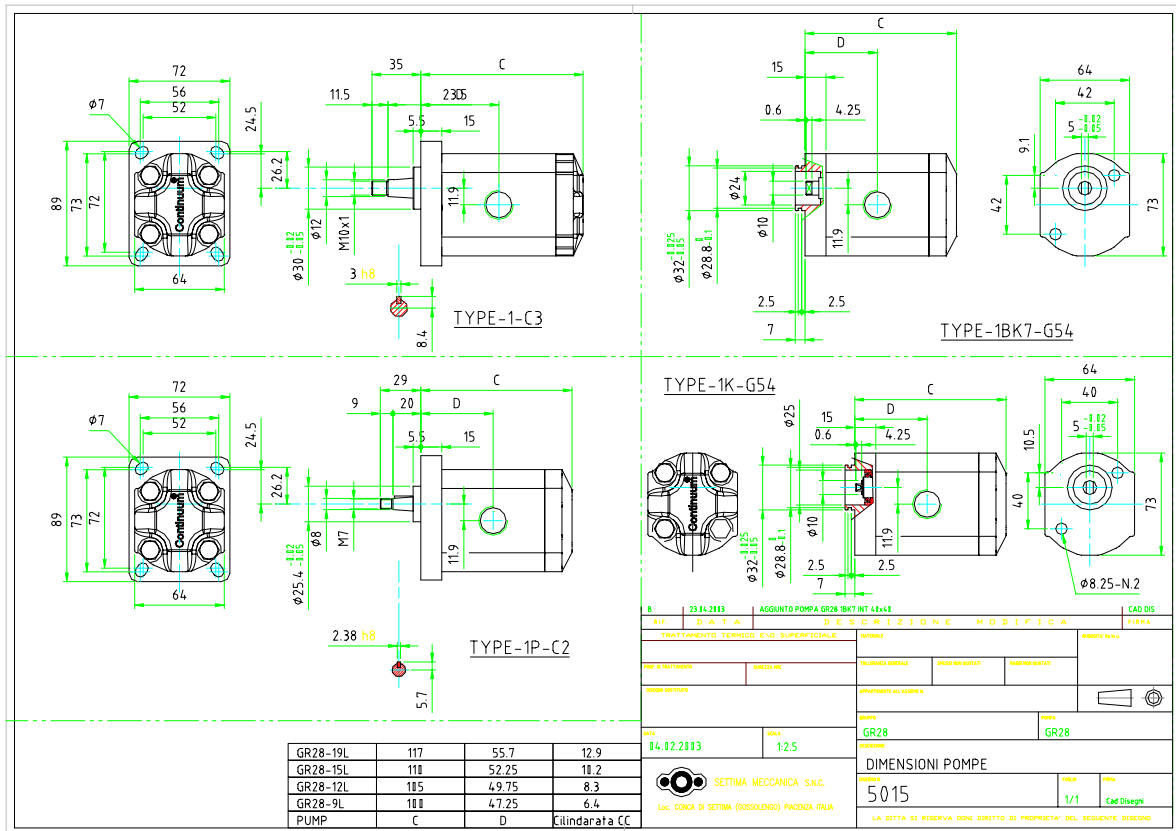
Type	Model	Displacement (cm ³ / rev)	Flow (*) (L/min)	Pressures available (**)			Noise Level db(A) at 150 bar
				Continuous (bar)	Intermittent (bar)	Peak (bar)	
GR28	6	6,4	9,2	275	280	300	55
	8	8,3	12,0	246	260	300	55
	10	10,2	14,7	222	250	300	55
	13	12,9	18,6	198	250	300	55
GR33	10	10,1	14,5	275	280	300	55
	13	12,6	18,1	265	270	300	55
	15	15,2	21,8	241	250	300	55
	18	18,2	26,1	220	250	300	55
GR38	16	15,9	22,8	265	280	300	55
	18	17,9	25,8	247	260	300	55
	20	20,0	28,8	230	250	300	55
	22	22,1	31,8	222	250	300	55
	25	25,2	36,2	208	250	300	55
	28	28,3	40,7	198	250	300	55
GR47	28	28,0	40,3	270	280	300	57
	32	32,2	46,3	252	270	300	57
	36	36,3	52,3	239	250	300	57
	40	40,5	58,3	225	250	300	57
	45	45,1	65,0	213	250	300	57
	50	50,3	72,4	202	250	300	57
GR55	50	50,5	72,7	275	280	300	57
	63	63,5	91,4	249	260	300	57
	75	75,0	108,1	229	250	300	57
	90	90,9	130,9	208	250	300	57
GR70	94	94,1	135,4	275	280	300	57
	105	105,5	152,0	275	280	300	57
	128	128,5	185,0	252	265	300	57
	156	156,0	224,6	228	250	300	57
	184	183,6	264,3	211	250	300	57

(*) the flow is computed assuming a volumetric efficiency equal to 96% and 1.500 rpm
 (**) Intermittent: cycle 1min. ON & 3 sec. OFF – Peak: cycle 5 sec. ON & 1 sec. OFF

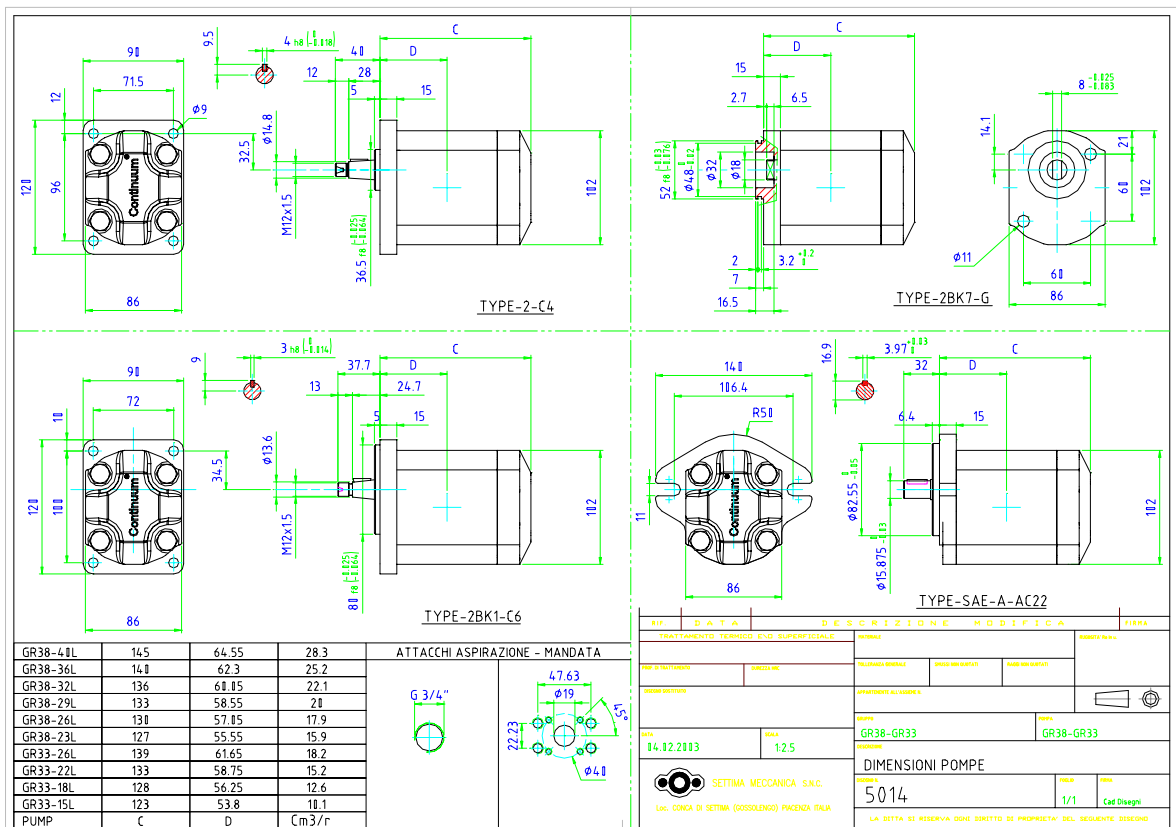
Dimensional drawing – series 2V – GR28/33/38

Shaft types & dimensions

GR28



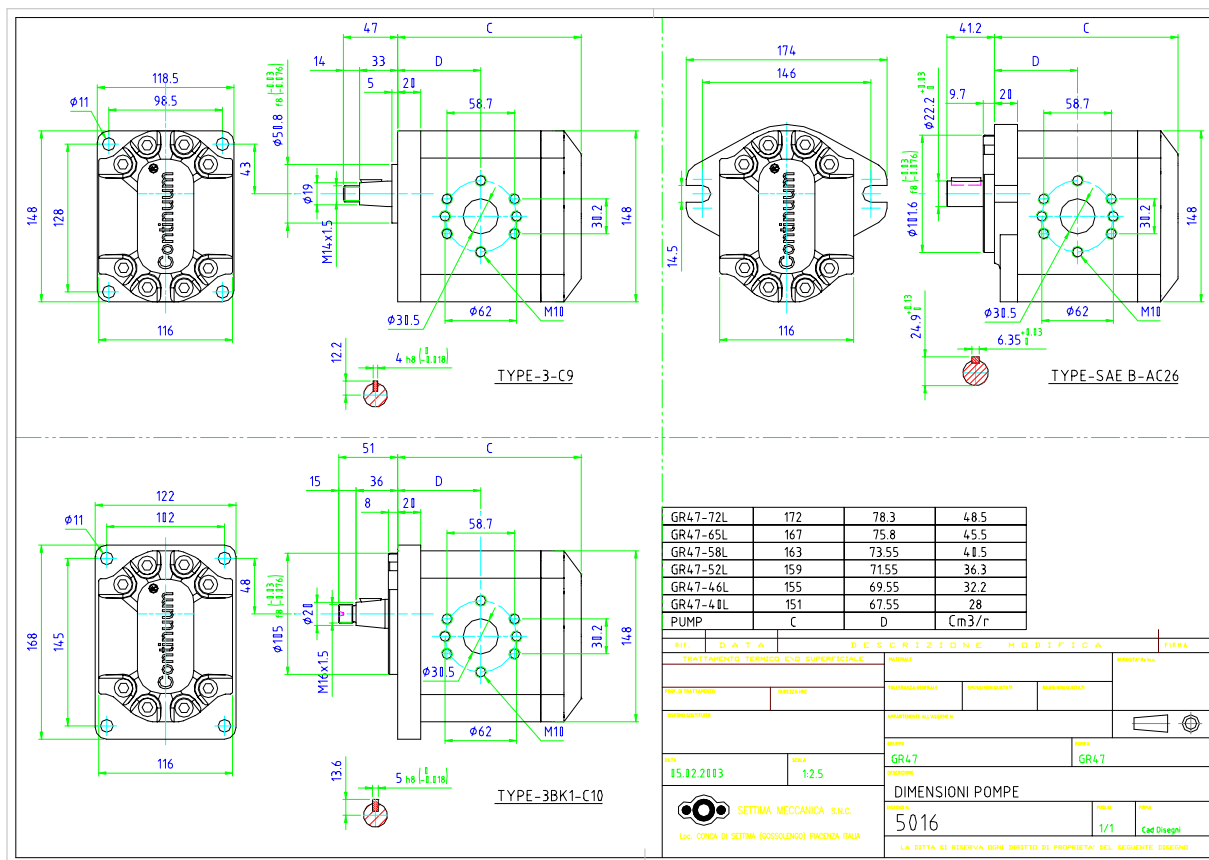
GR33 – GR38



Dimensional drawing – series 2V – GR47

Shaft types & dimensions

GR47



Ordering code

GR **	2V	***	F **** A***	*	***
Pump Size		Nominal Displacement	Flange - Shaft	Shaft Seal	Rotation
GR28		006 – 008 – 010 – 013	1-C3, 1P-C2, 1BK7-G54, 1K-G54	None NBR	DX Right rotation
GR33		010 – 013 – 015 – 018	2-C4, 2BK1-C6, 2BK7-G, SAEA-AC22		
GR38		016 – 018 – 020 – 022 – 025 – 028	2-C4, 2BK1-C6, 2BK7-G, SAEA-AC22		
GR47		028 – 032 – 036 – 040 – 045 – 050	3-C9, 3BK1-C10, SAEB-AC26	V Viton FPM	SX Left Rotation (not yet available)
GR55		050 – 063 – 075 – 090	SAEB-AC26		
GR70		094 – 105 – 128 – 156 – 184	SAEB-AC26		

The data shown in the catalogue can change without notice.
For special applications – please contact the main office.

Main Office:

Area Agency/Reseller:

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