

SCREW PUMPS HIGH PRESSURE TYPE CONTINUUM

Dry helicoidal rotor pumps for high pressure low noise industrial applications - Working pressure 250 bar continuous

Series CONTINUUM



250 bar program

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TECNOLOGY INNOVATION FOR HIGH PRESSURE WITH LOW NOISE

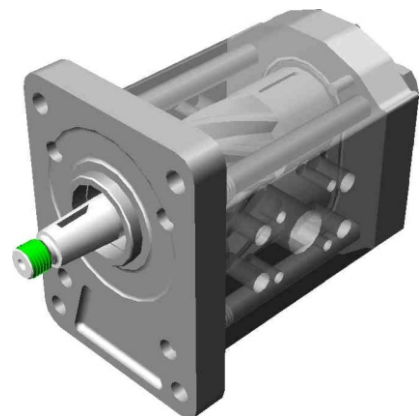
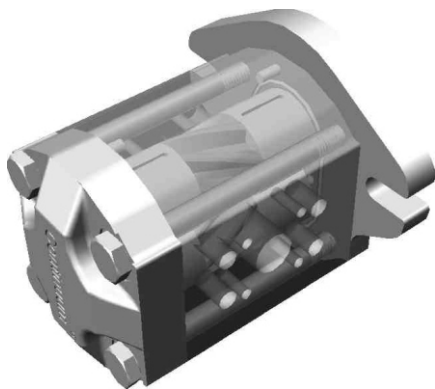
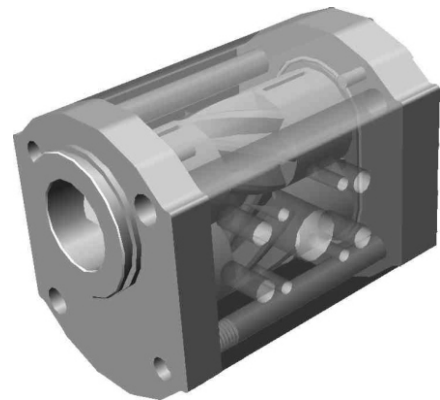
The Continuum® project is based on three patented (*) concepts:

- 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

(*) Patented IT BO 95 A 000095 – Patent pending EP 1132618, EP 1291526, EP 02425384.1, US 280350



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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:

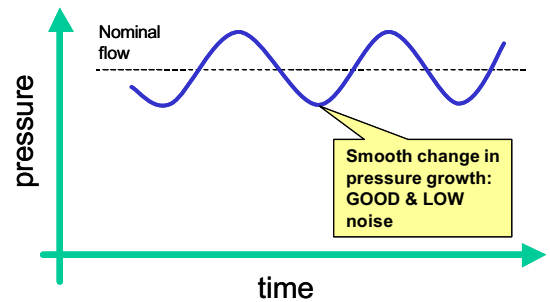
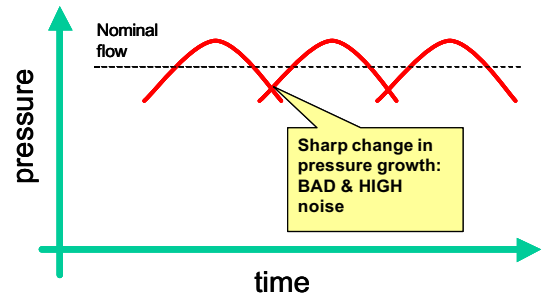
- **sharp changes** in pressure growth (see red "bad" noise pressure curve)
- **BAD & HIGH** noise (starting from 1.500 rpm)

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

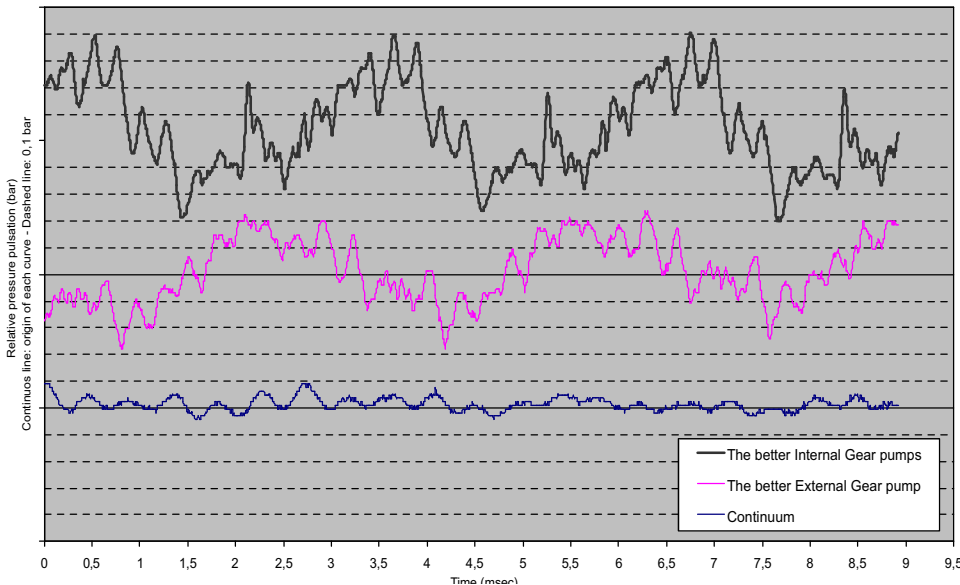
- **NO rooms** of compressed oil between gears.

The above implies:

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

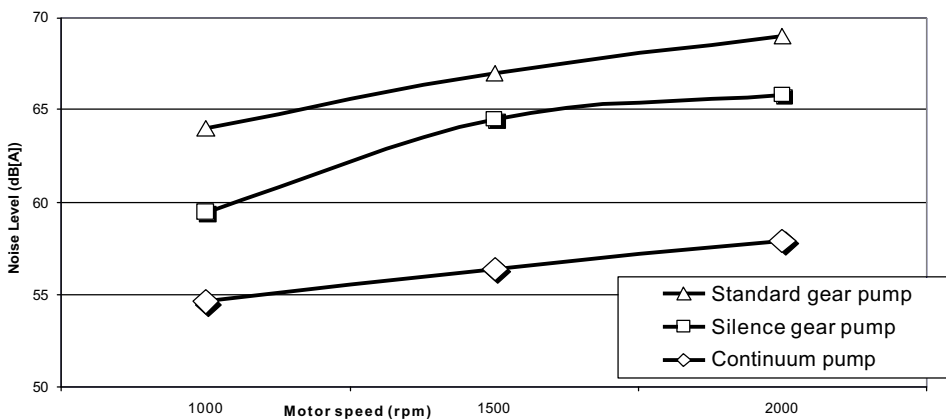


Test Environment: 100bar - 46 cSt - 1.500 rpm



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.

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Detailed technical information

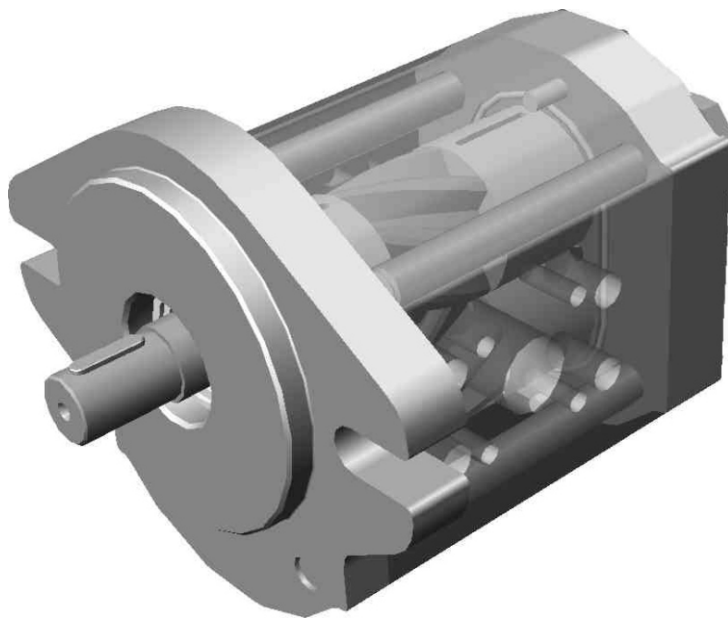
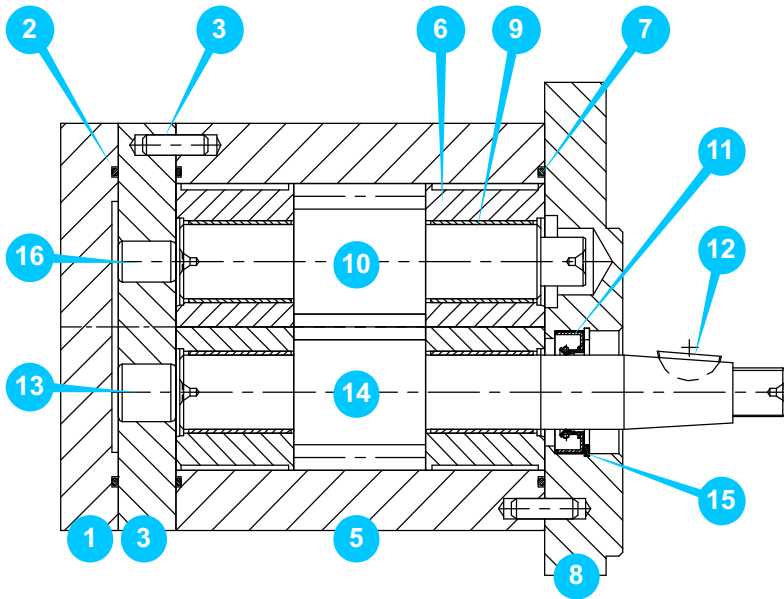
<i>Models available</i>	GR28 – GR33 – GR38 – GR47 – GR55 – GR70
<i>Flanges</i>	Group 1 – Group 2 (European, German, BKT, SAE-A) – Group 3 (European, SAE-B)
<i>Connections</i>	GAS – SAE 3000
<i>Installation position</i>	External
<i>Shaft rotation</i>	Clockwise
<i>Shaft speed</i>	Up to 3.600 rpm
<i>Displacements – 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: • HFA oil-water emulsion -oil minimum 5% • HFB water-oil emulsion ± 40% • HFC water/glycol – water max 35 to 55% • 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

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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

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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
						300	
	10	10,2	14,7	222	250	300	55
						300	
GR33	10	10,1	14,5	275	280	300	55
						300	
	15	15,2	21,8	241	250	300	55
						300	
GR38	16	15,9	22,8	265	280	300	55
						300	
	20	20,0	28,8	230	250	300	55
						300	
	25	25,2	36,2	208	250	300	55
						300	
GR47	28	28,0	40,3	270	280	300	57
						300	
	36	36,3	52,3	239	250	300	57
						300	
	45	45,1	65,0	213	250	300	57
						300	
GR55	50	50,5	72,7	275	280	300	57
						300	
	75	75,0	108,1	229	250	300	57
						300	
GR70	94	94,1	135,4	275	280	300	57
						300	
	128	128,5	185,0	252	265	300	57
						300	
	184	183,6	264,3	211	250	300	57

(*) the flow is computed assuming a volumetric efficiency equal to 96% and 1.500 rpm

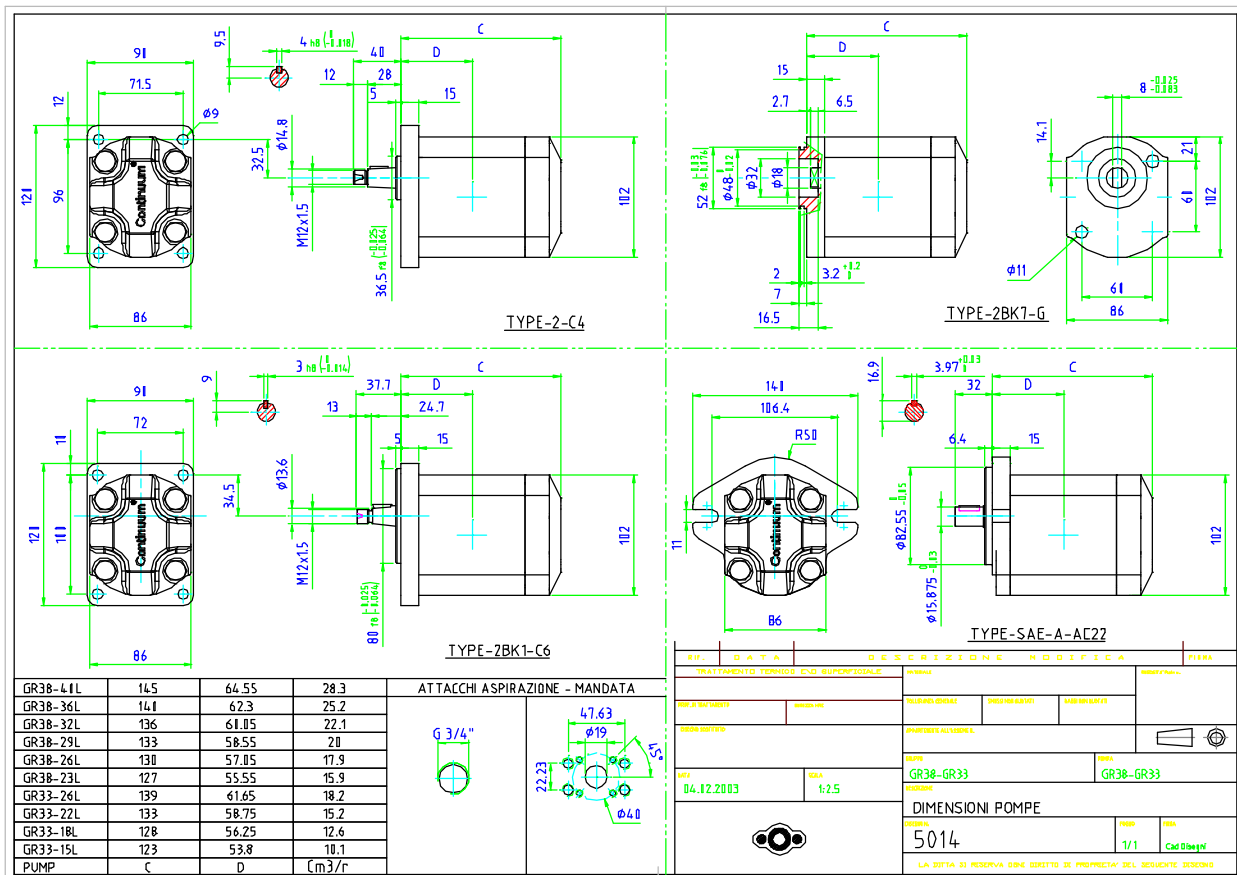
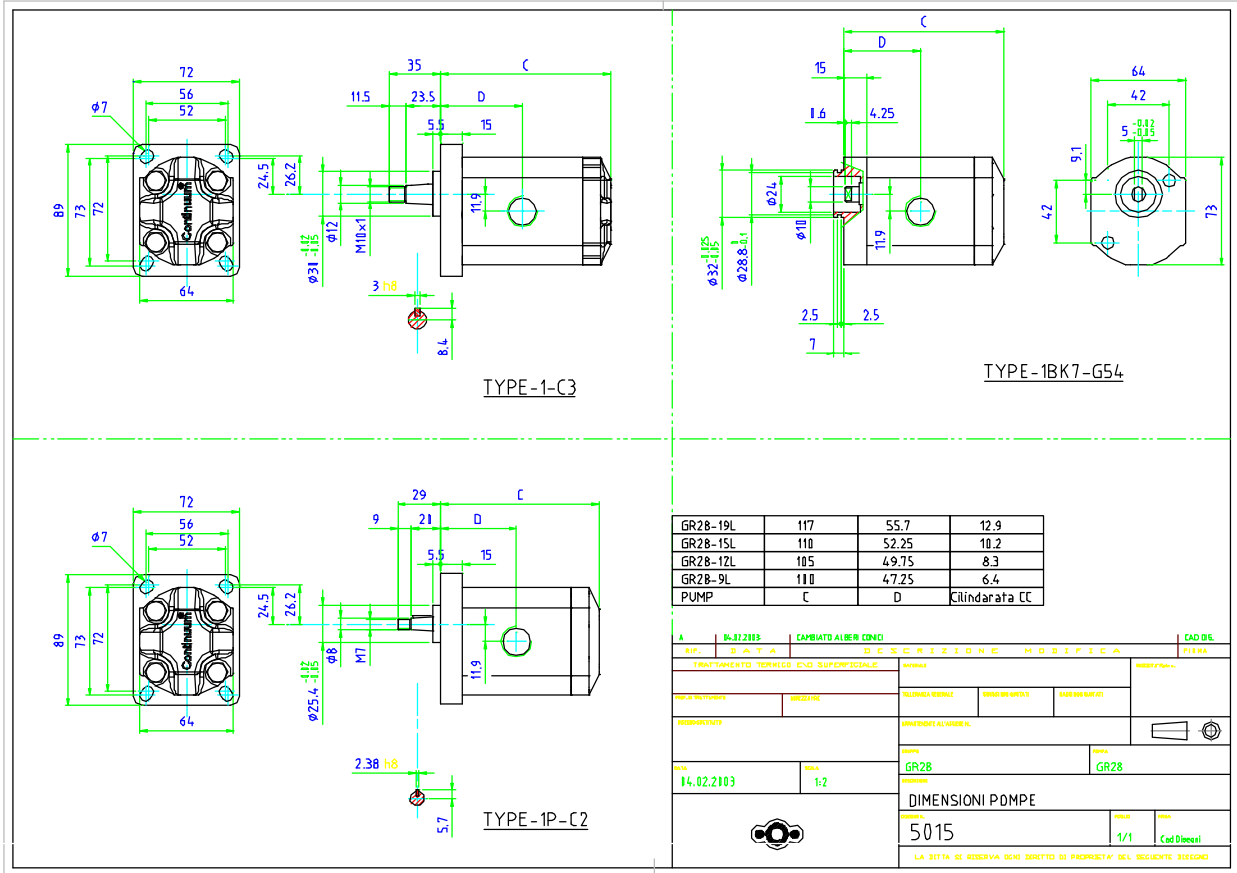
(**) Intermittent: cycle 1min. ON & 3 sec. OFF – Peak: cycle 5 sec. ON & 1 sec. OFF

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

Shaft types & dimensions

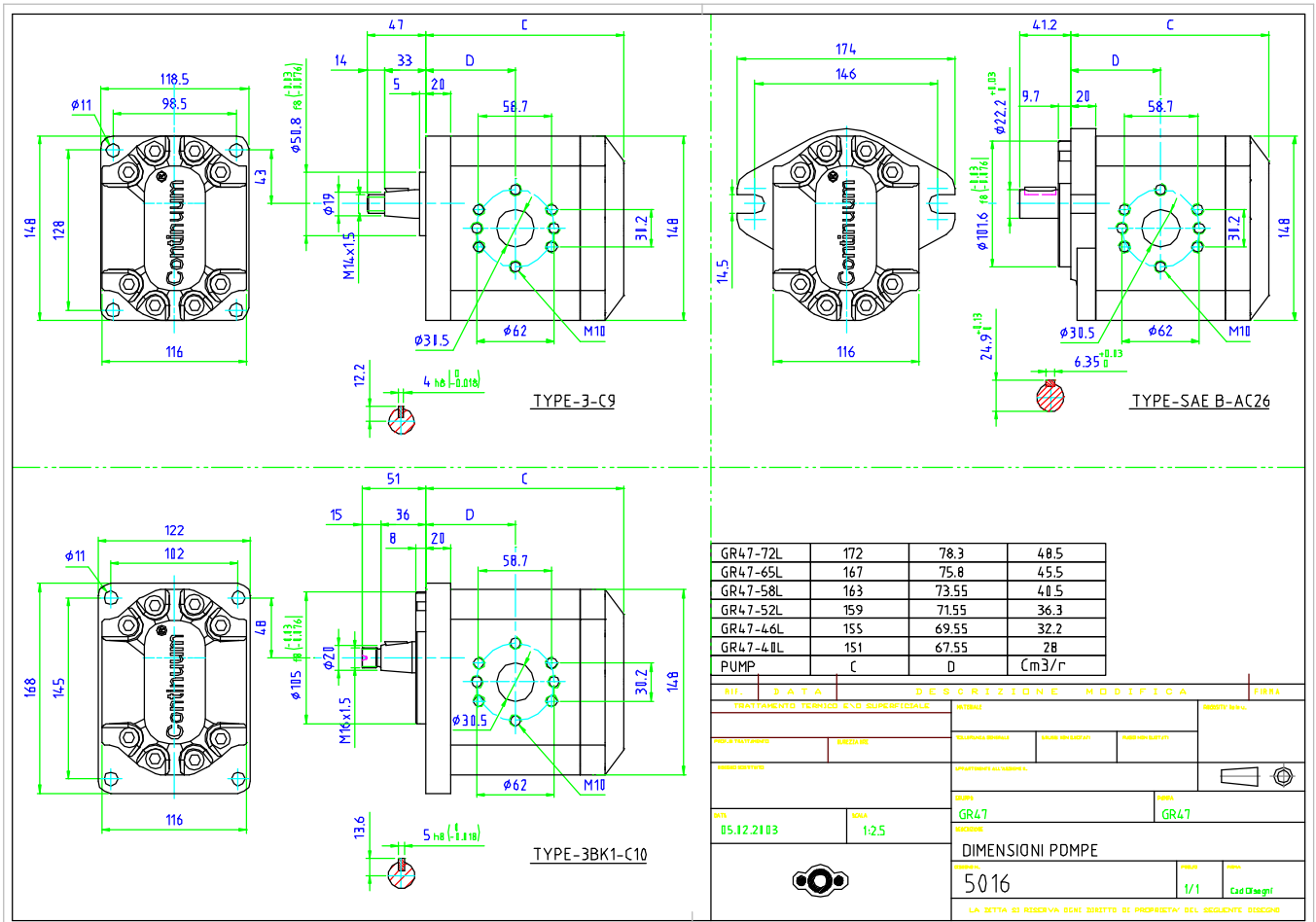


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Dimensional drawing – series 2V – GR47

Shaft types & dimensions



Main Office:

Area Agency/Reseller: