

# *Fluid Power Design*

Hydraulic pumps, motors & filters

 **CASAPPA**<sup>®</sup>  
FLUID POWER DESIGN





Luciano and Renato Casappa

**C**onstant evolution and a passion for hydraulics. This strategy has allowed Casappa to develop from a producer of hydraulic pumps in 1952 into today's industrial force. Finrel S.p.A., a holding company controlled by the Casappa family, groups together seven fully owned companies and five companies with equity stakes. There are more than 1300 employees and overall sales in 2008 of 227 Million Euros. The development of employee's skills and investment in research and development are key elements for Casappa, Walvoil, and all of the companies operating in the Hydraulic

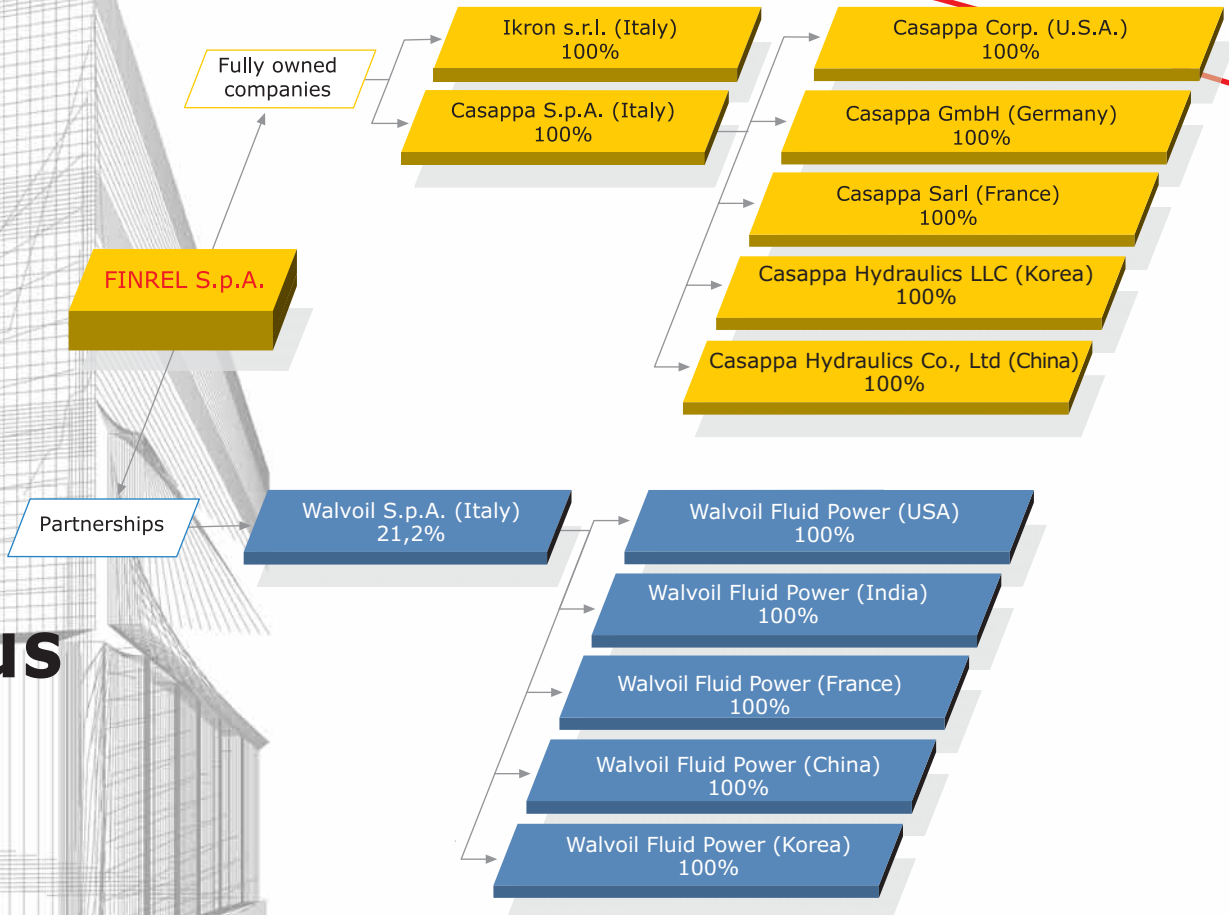
business. Together we design and manufacture major hydraulic system components for applications that range from construction to industrial vehicles, material handling, agriculture, and industry. In addition to supplying the products in our catalogs, we develop customized solutions in close collaboration with our customers, well aware of the importance of their contribution in the design stage. Casappa offers a wide range of pumps, motors, and hydraulic filters. In order to optimize the dimensions and costs of a system, many functions, such as valve controls, are

## Our passion for high performance

directly incorporated in the products. The constant attention given to certifications, in compliance with ISO standards, is an assurance of the quality and professionalism that has always characterized our Companies' activities.

Our customers can count on partners that have the technical know-how of specialists in system design and application experience. Thanks to the integration of the Finrel group of companies, we respond promptly by focusing on each separate component as it fits into the complete system.

**in hydraulic drives us**





## Aluminium body hydraulic gear pumps and motors

Gear pumps and motors built in three pieces with an extruded body in high resistance aluminium alloy. The wide choice of shafts, flanges and ports, in compliance with all international standards (SAE, DIN and EUROPEAN) allow for their use in an infinite variety of applications.

Displacements from 0.07 in<sup>3</sup>/rev (1,07 cm<sup>3</sup>/rev) to 5.56 in<sup>3</sup>/rev (91,10 cm<sup>3</sup>/rev) available in groups 10, 20 and 30

Max. peak pressure up to 4350 psi (300 bar)

Max. speed up to 4000 min<sup>-1</sup>

- High efficiencies
- Integrated outboard bearings for heavy duty applications
- Multiple units available in standard version, common inlet and separated stages
- Electro-hydraulic fan drive system
- Custom design

### Built-in valves

- Anti-cavitation valves
- Maximum pressure relief valves
- Priority valves
- "Load sensing" priority valves
- By-pass electric valves
- Proportional relief valves
- Reverse valves

**POLARIS®**





POLARIS 10	Displacement	Max. continuous pressure	Max. speed	POLARIS 20	Displacement	Max. continuous pressure	Max. speed		
	in <sup>3</sup> /rev (cm <sup>3</sup> /rev)	psi (bar)	min <sup>-1</sup>		in <sup>3</sup> /rev (cm <sup>3</sup> /rev)	psi (bar)	min <sup>-1</sup>		
	PL. 10•1	0.07 (1,07)	3770 (260)		4000	PL. 20•4	0.30 (4,95)	3625 (250)	4000
	PL. 10•1,5	0.10 (1,60)	3770 (260)		4000	PL. 20•6,3	0.40 (6,61)	3625 (250)	4000
	PL. 10•2	0.13 (2,13)	3770 (260)		4000	PL. 20•7,2	0.44 (7,29)	3625 (250)	4000
	PL. 10•2,5	0.16 (2,67)	3770 (260)		4000	PL. 20•8	0.50 (8,26)	3625 (250)	3500
	PL. 10•3,15	0.20 (3,34)	3770 (260)		4000	PL. 20•9	0.56 (9,17)	3625 (250)	3500
	PL. 10•4	0.26 (4,27)	3625 (250)		4000	PL. 20•10,5	0.66 (10,9)	3625 (250)	3500
	PL. 10•5	0.33 (5,34)	3625 (250)		4000	PL. 20•11,2	0.69 (11,23)	3625 (250)	3500
	PL. 10•5,8	0.38 (6,20)	3355 (230)		3500	PL. 20•14	0.89 (14,53)	3625 (250)	3500
PL. 10•6,3	0.41 (6,67)	3355 (230)	3500	PL. 20•16	1.03 (16,85)	3625 (250)	3000		
PL. 10•8	0.52 (8,51)	2610 (180)	3500	PL. 20•19	1.16 (19,09)	2900 (200)	3000		
PL. 10•10	0.65 (10,67)	2030 (140)	3500	PL. 20•20	1.29 (21,14)	2900 (200)	3000		
				PL. 20•24,5	1.52 (24,84)	2465 (170)	2500		
				PL. 20•25	1.61 (26,42)	2465 (170)	2500		
				PL. 20•27,8	1.72 (28,21)	1885 (130)	2000		
				PL. 20•31,5	2.01 (33,03)	1885 (130)	2000		

POLARIS 30	Displacement	Max. continuous pressure	Max. speed	
	in <sup>3</sup> /rev (cm <sup>3</sup> /rev)	psi (bar)	min <sup>-1</sup>	
	PL. 30•22	1.34 (21,99)	3625 (250)	3000
	PL. 30•27	1.63 (26,70)	3625 (250)	3000
	PL. 30•34	2.11 (34,55)	3480 (240)	3000
	PL. 30•38	2.40 (39,27)	3480 (240)	3000
	PL. 30•43	2.68 (43,98)	3335 (230)	3000
	PL. 30•51	3.16 (51,83)	3045 (210)	2500
	PL. 30•61	3.74 (61,26)	2755 (190)	2500
	PL. 30•73	4.50 (73,82)	2465 (170)	2500
PL. 30•82	4.98 (81,68)	2320 (160)	2200	
PL. 30•90	5.56 (91,10)	2175 (150)	2200	





## Aluminium body hydraulic gear pumps

Gear pumps built in three pieces with an extruded body in high resistance aluminium alloy.

WHISPER is a new and original technology protected by international patents and applied to a family of external gear pumps that feature low noise emissions. The wide choice of shafts, flanges and ports, in compliance with all international standards (SAE, DIN and EUROPEAN) allow for their use in an infinite variety of applications.

Displacements from 0.07 in<sup>3</sup>/rev (1,12 cm<sup>3</sup>/rev) to

5.91 in<sup>3</sup>/rev (96,85 cm<sup>3</sup>/rev) available in groups 10, 20 and 30

Max. peak pressure up to 4350 psi (300 bar)

Max. speed up to 4000 min<sup>-1</sup>

- High efficiencies
- Low noise emission
- Integrated outboard bearings for heavy duty applications
- Multiple units
- Custom design

### Built-in valves

- Maximum pressure relief valves
- Priority valves
- "Load sensing" priority valves
- By-pass electric valves

### Low noise emission

WHISPER

Reduced pulsations  
by **75%**





WHISPER 10	Displacement	Max. continuous pressure	Max. speed	WHISPER 20	Displacement	Max. continuous pressure	Max. speed		
	in <sup>3</sup> /rev (cm <sup>3</sup> /rev)	psi (bar)	min <sup>-1</sup>		in <sup>3</sup> /rev (cm <sup>3</sup> /rev)	psi (bar)	min <sup>-1</sup>		
	WS. 10•1	0.07 (1,12)	3770 (260)		4000	WS. 20•4	0.32 (5,25)	3625 (250)	4000
	WS. 10•1,5	0.10 (1,68)	3770 (260)		4000	WS. 20•6,3	0.43 (7,00)	3625 (250)	4000
	WS. 10•2	0.14 (2,24)	3770 (260)		4000	WS. 20•7,2	0.47 (7,72)	3625 (250)	4000
	WS. 10•2,5	0.17 (2,80)	3770 (260)		4000	WS. 20•8	0.53 (8,74)	3625 (250)	3500
	WS. 10•3,15	0.21 (3,48)	3770 (260)		4000	WS. 20•9	0.59 (9,65)	3625 (250)	3500
	WS. 10•4	0.27 (4,45)	3625 (250)		4000	WS. 20•10,5	0.70 (11,54)	3625 (250)	3500
	WS. 10•5	0.34 (5,60)	3625 (250)		4000	WS. 20•11,2	0.73 (11,89)	3625 (250)	3500
	WS. 10•5,8	0.40 (6,51)	3335 (230)		3500	WS. 20•14	0.94 (15,39)	3625 (250)	3500
WS. 10•6,3	0.43 (7,00)	3335 (230)	3500	WS. 20•16	1.09 (17,84)	3625 (250)	3000		
WS. 10•8	0.54 (8,92)	2610 (180)	3500	WS. 20•19	1.23 (20,22)	2900 (200)	3000		
WS. 10•10	0.68 (11,20)	2030 (140)	3500	WS. 20•20	1.37 (22,38)	2900 (200)	3000		
				WS. 20•24,5	1.60 (26,30)	2465 (170)	2500		
				WS. 20•25	1.71 (27,98)	2465 (170)	2500		
				WS. 20•27,8	1.82 (29,87)	1885 (130)	2000		
				WS. 20•31,5	2.13 (34,98)	1885 (130)	2000		

WHISPER 30	Displacement	Pressione max. continua	Max. speed	
	in <sup>3</sup> /rev (cm <sup>3</sup> /rev)	psi (bar)	min <sup>-1</sup>	
	WS. 30•22	1.43 (23,38)	3625 (250)	3000
	WS. 30•27	1.73 (28,39)	3625 (250)	3000
	WS. 30•34	2.24 (36,74)	3480 (240)	3000
	WS. 30•38	2.55 (41,75)	3480 (240)	3000
	WS. 30•43	2.85 (46,76)	3335 (230)	3000
	WS. 30•51	3.36 (55,10)	3045 (210)	2500
	WS. 30•61	3.97 (65,12)	2775 (190)	2500
	WS. 30•73	4.79 (78,48)	2465 (170)	2500
WS. 30•82	5.30 (86,83)	2320 (160)	2200	
WS. 30•90	5.91 (96,85)	2175 (150)	2200	





## Cast iron body hydraulic gear pumps and motors

Gear pumps and motors built in three pieces with cast iron body.

The new gear pumps and motors "PH" series is an evolution of the "POLARIS" series.

"POLARIS PH" has a new body made of cast iron to have higher operating parameters and keep the full POLARIS versatility regarding shafts, flanges, ports and built-in valves.

This project is targeted for forklifts, skid steer loaders and all those applications where traditional aluminium pumps are being pushed close to their limits.

The possibility to mate the body with the cast iron covers further reduces noise levels, in addition to increasing strength.

Displacements from 1.16 in<sup>3</sup>/rev (19,09 cm<sup>3</sup>/rev) to 2.01 in<sup>3</sup>/rev (33,03 cm<sup>3</sup>/rev).

Max. peak pressure up to 4350 psi (300 bar)

Max. speed up to 3500 min<sup>-1</sup>

- High working pressure also for high displacements
- Long service life
- Low noise level
- High volumetric efficiency also at high temperature
- Inlet & Outlet optimization – High speed
- Combination in multiple pumps
- Built-in Valves simplify circuit design

### Built-in valves

- Anti-cavitation valves
- Maximum pressure relief valves
- Priority valves
- "Load sensing" priority valves
- By-pass electric valves
- Proportional relief valves
- Reverse valves

**POLARIS®**







POLARIS PH 20

	Displacement	Max. continuous pressure	Max. speed
	in <sup>3</sup> /rev (cm <sup>3</sup> /rev)	psi (bar)	min <sup>-1</sup>
PH. 20•19	1.16 (19,09)	3625 (250)	3500
PH. 20•20	1.29 (21,14)	3625 (250)	3500
PH. 20•23	1.42 (23,32)	3625 (250)	3000
PH. 20•24,5	1.52 (24,84)	3335 (230)	3000
PH. 20•25	1.72 (26,42)	3335 (230)	3000
PH. 20•27,8	1.72 (28,21)	2900 (200)	2500
PH. 20•31,5	2.01 (33,03)	2900 (200)	2500



## Designed for heavy duty applications

Buildings & Construction Machinery - Agricultural Machinery - Material Handling Equipment





## Cast iron body hydraulic gear pumps and motors

Gear pumps and motors made of cast iron in two pieces.

A rigid and compact structure that makes it possible to incorporate a number of functions in a limited space.

Wide range of displacements: from 0.30 in<sup>3</sup>/rev (4,95 cm<sup>3</sup>/rev) to 9,20 in<sup>3</sup>/rev (150,79 cm<sup>3</sup>/rev) available in groups 20, 30 and 40.

Max. peak pressure up to 4785 psi (330 bar).

Max. speed up to 4000 min<sup>-1</sup>

- High operating pressure
- High efficiency at high temperature
- Low noise emission
- Exceptional working life expectancy
- Solid and compact design
- Custom design

### Built-in valves

- Antishock and anti-cavitation valves
- Priority valves
- "Load Sensing" priority valves
- By-pass electric valves





KAPPA 20	Displacement	Max. continuous pressure	Max. speed	KAPPA 30	Displacement	Max. continuous pressure	Max. speed
	in <sup>3</sup> /rev (cm <sup>3</sup> /rev)	psi (bar)	min <sup>-1</sup>		in <sup>3</sup> /rev (cm <sup>3</sup> /rev)	psi (bar)	min <sup>-1</sup>
	K. 20•4	0.30 (4,95)	4133 (285)		4000	K. 30•27	1.63 (26,7)
K. 20•6,3	0.40 (6,61)	4133 (285)	4000	K. 30•34	2.11 (34,56)	3770 (260)	3000
K. 20•8	0.50 (8,26)	4133 (285)	3500	K. 30•38	2.40 (39,27)	3770 (260)	3000
K. 20•11,2	0.69 (11,23)	3988 (275)	3500	K. 30•43	2.68 (43,98)	3625 (250)	3000
K. 20•14	0.89 (14,53)	3843 (265)	3500	K. 30•51	3.16 (51,83)	3335 (230)	2500
K. 20•16	1.03 (16,85)	3770 (260)	3000	K. 30•56	3.45 (56,54)	3118 (215)	2500
K. 20•20	1.29 (21,14)	3045 (210)	3000	K. 30•61	3.74 (61,26)	2900 (200)	2500
K. 20•25	1.61 (26,42)	2610 (180)	2500	K. 30•73	4.50 (73,82)	2610 (180)	2500
K. 20•31,5	2.01 (33,03)	2030 (140)	2000				



KAPPA COMPACT 30	Displacement	Max. continuous pressure	Max. speed	KAPPA COMPACT 40	Displacement	Max. continuous pressure	Max. speed
	in <sup>3</sup> /rev (cm <sup>3</sup> /rev)	psi (bar)	min <sup>-1</sup>		in <sup>3</sup> /rev (cm <sup>3</sup> /rev)	psi (bar)	min <sup>-1</sup>
	K. 30•22	1.34 (21,99)	4060 (280)		3000	K. 40•63	3.75 (61,43)
K. 30•27	1.63 (26,7)	4060 (280)	3000	K. 40•73	4.43 (72,6)	4350 (300)	2800
K. 30•31	1.87 (30,63)	3770 (260)	3000	K. 40•87	5.28 (86,56)	4060 (280)	2800
K. 30•34	2.11 (34,56)	3770 (260)	3000	K. 40•109	6.64 (108,9)	3625 (250)	2800
K. 30•38	2.40 (39,27)	3770 (260)	3000	K. 40•121	7.43 (121,8)	3335 (230)	2500
K. 30•41	2.54 (41,62)	3625 (250)	3000	K. 40•133	8.18 (134,03)	3190 (220)	2500
K. 30•43	2.68 (43,98)	3625 (250)	3000	K. 40•151	9.20 (150,79)	2900 (200)	2500
K. 30•46	2.83 (46,34)	3625 (250)	3000				
K. 30•51	3.16 (51,83)	3335 (230)	2500				
K. 30•56	3.45 (56,54)	3118 (215)	2500				
K. 30•61	3.74 (61,26)	2900 (200)	2500				
K. 30•73	4.50 (73,82)	2610 (180)	2500				





## Cast iron body hydraulic gear pumps

Gear pumps made of cast iron in two pieces.

Ideal for truck application

Displacements from 0.50 in<sup>3</sup>/rev (8,26 cm<sup>3</sup>/rev) to 9.20 in<sup>3</sup>/rev (150,79 cm<sup>3</sup>/rev) available in groups 20, 30, 35 and 40.

Max. peak pressure up to 4713 psi (325 bar)

Max. speed up to 3000 min<sup>-1</sup>

- High performance also at very low speed
- Different ports position availability
- Low noise emission
- Shaft seal system no leakage guarantee
- Modular design
- Direct mounting on the PTOs

**FORMULA**<sup>®</sup>

New **FORMULA**<sup>®</sup>  
S F P





FORMULA 20	Displacement	Max. continuous pressure	Max. speed	FORMULA 30	Displacement	Max. continuous pressure	Max. speed
	in <sup>3</sup> /rev (cm <sup>3</sup> /rev)	psi (bar)	min <sup>-1</sup>		in <sup>3</sup> /rev (cm <sup>3</sup> /rev)	psi (bar)	min <sup>-1</sup>
	FP 20•8	0.50 (8,26)	4060 (280)		2000	FP 30•17	1.05 (17,28)
FP 20•11,2	0.69 (11,23)	4060 (280)	2000	FP 30•27	1.63 (26,70)	4205 (290)	3000
FP 20•16	1.03 (16,85)	4060 (280)	2000	FP 30•34	2.11 (34,56)	4060 (280)	2800
FP 20•20	1.29 (21,14)	3770 (260)	2000	FP 30•38	2.40 (39,27)	4060 (280)	2800
FP 20•25	1.61 (26,42)	3190 (220)	2000	FP 30•43	2.68 (43,98)	3915 (270)	2500
FP 20•31,5	2.01 (33,03)	2755 (190)	1800	FP 30•51	3.16 (51,83)	3480 (240)	2500
FP 20•36	2.19 (35,94)	2465 (170)	1800	FP 30•61	3.74 (61,26)	3190 (220)	2000
FP 20•40	2.42 (39,64)	2320 (160)	1800	FP 30•73	4.50 (73,82)	2900 (200)	1800
				FP 30•82	4.98 (81,68)	2755 (190)	1800
				FP 30•100	6.16 (100,52)	2610 (180)	1800
				FP 30•125	7.67 (125,66)	2320 (160)	1800

FORMULA 40	Displacement	Max. continuous pressure	Max. speed
	in <sup>3</sup> /rev (cm <sup>3</sup> /rev)	psi (bar)	min <sup>-1</sup>
	FP 40•63	3.75 (61,43)	4205 (290)
FP 40•73	4.43 (72,60)	4060 (280)	2700
FP 40•87	5.28 (86,56)	3770 (260)	2700
FP 40•109	6.64 (108,90)	3480 (240)	2700
FP 40•133	8.18 (134,03)	3190 (220)	2500
FP 40•151	9.20 (150,79)	2610 (180)	2500



FORMULA SFP 30	Displacement	Max. continuous pressure	Max. speed	FORMULA SFP 35	Displacement	Max. continuous pressure	Max. speed
	in <sup>3</sup> /rev (cm <sup>3</sup> /rev)	psi (bar)	min <sup>-1</sup>		in <sup>3</sup> /rev (cm <sup>3</sup> /rev)	psi (bar)	min <sup>-1</sup>
	SFP 30•34	2.16 (35,43)	4060 (280)		2800	SFP 35•90	5.86 (95,99)
SFP 30•43	2.75 (45,09)	3915 (270)	2500	SFP 35•100	6.40 (104,92)	3190 (220)	2250
SFP 30•51	3.24 (53,14)	3625 (250)	2500	SFP 35•112	7.22 (118,31)	2973 (205)	2250
SFP 30•61	3.83 (62,80)	3335 (230)	2500				
SFP 30•73	4.62 (75,68)	2973 (205)	2250				
SFP 30•82	5.11 (83,74)	2828 (195)	2250				



# Cast iron body hydraulic gear pumps and motors

Gear pumps and motors made of cast iron in three pieces. An extremely versatile and reliable design, also in the most extreme operating conditions. Displacements from 1.05 in<sup>3</sup>/rev (17,28 cm<sup>3</sup>/rev) to 7.66 in<sup>3</sup>/rev (125,63 cm<sup>3</sup>/rev) available in groups 30 and 35.

Max. peak pressure up to 4640 psi (320 bar).

Max. speed up to 3000 min<sup>-1</sup>

- Wide range of drive shafts and flanges in SAE version
- More choices of port locations
- Integrated outboard bearings for heavy duty applications
- Multiple units available in standard version, common inlet and separated stages
- Exceptional working life expectancy



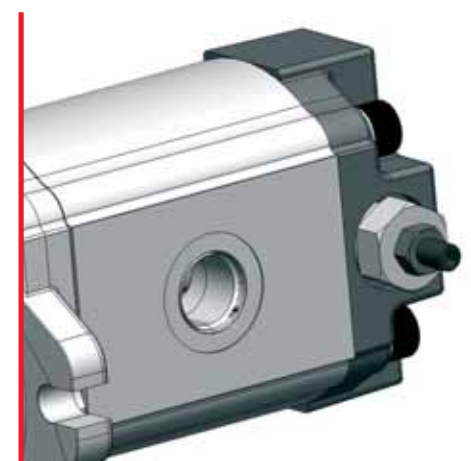
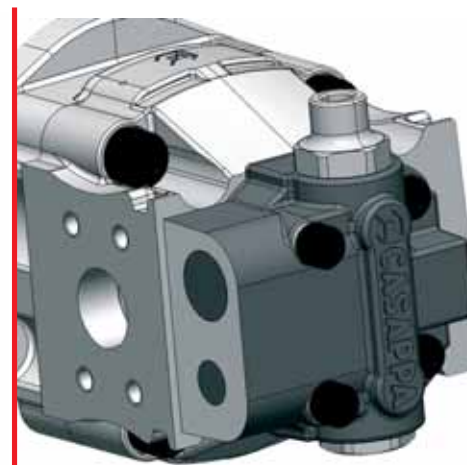
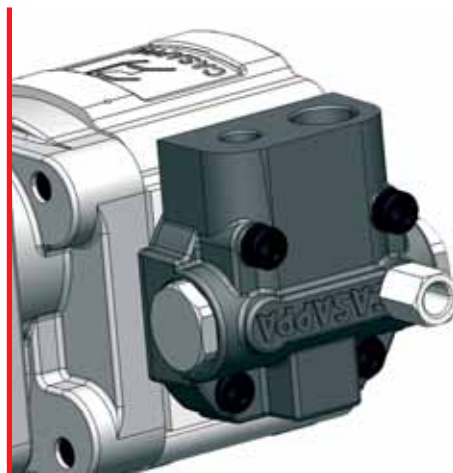
MAGNUM 30	Displacement	Max. continuous pressure	Max. speed	MAGNUM 35	Displacement	Max. continuous pressure	Max. speed
	in <sup>3</sup> /rev (cm <sup>3</sup> /rev)	psi (bar)	min <sup>-1</sup>		in <sup>3</sup> /rev (cm <sup>3</sup> /rev)	psi (bar)	min <sup>-1</sup>
HD. 30•17	1.05 (17,28)	4060 (280)	3000	HD. 35•40	2.47 (40,46)	3915 (270)	3000
HD. 30•22	1.34 (21,99)	4060 (280)	3000	HD. 35•50	3.12 (51,10)	3915 (270)	3000
HD. 30•24	1.47 (24,03)	4060 (280)	3000	HD. 35•63	3.90 (63,88)	3915 (270)	3000
HD. 30•27	1.63 (26,70)	4060 (280)	3000	HD. 35•71	4.42 (72,40)	3625 (250)	3000
HD. 30•34	2.11 (34,56)	3915 (270)	3000	HD. 35•80	4.94 (80,91)	3625 (250)	3000
HD. 30•38	2.40 (39,27)	3915 (270)	3000	HD. 35•90	5.59 (91,56)	3335 (230)	2700
HD. 30•43	2.68 (43,98)	3770 (260)	3000	HD. 35•100	6.10 (100,08)	3045 (210)	2700
HD. 30•51	3.16 (51,83)	3335 (230)	2500	HD. 35•112	6.88 (112,85)	2755 (190)	2700
HD. 30•56	3.45 (56,55)	3118 (215)	2500	HD. 35•125	7.66 (125,63)	2465 (170)	2500
HD. 30•61	3.74 (61,26)	2900 (200)	2000				
HD. 30•73	4.50 (73,82)	2755 (190)	1700				
HD. 30•82	4.98 (81,68)	2465 (170)	1500				



## Built-in valves for hydraulic gear pumps and motors

Anti-cavitation valves, maximum pressure relief valves, priority valves and "load sensing" priority valves built in the following series of gear pumps and motors:  
POLARIS, WHISPER, POLARIS PH, KAPPA, New KAPPA Compact

- Reduced overall dimensions
- Simplified plant design
- Wide choices of ports position





# Gear flow dividers

Gear flow dividers made of high resistance aluminium alloy. These components can be used as flow equalizers, flow dividers and pressure intensifiers.

Displacements from 0.13 in<sup>3</sup>/rev (2,14 cm<sup>3</sup>/rev) to 2.01 in<sup>3</sup>/rev (33,03 cm<sup>3</sup>/rev) available in groups 10 and 20

Max. peak pressure up to 4060 psi (280 bar).

- Modular design
- Accurate division of flow
- Built-in relief valves
- Combinations between different groups

**POLARIS®**



POLARIS 10	POLARIS 10			POLARIS 20	POLARIS 20				
	Displacement	Max. continuous pressure	Max. speed		Displacement	Max. continuous pressure	Max. speed		
	in <sup>3</sup> /rev (cm <sup>3</sup> /rev)	psi (bar)	min <sup>-1</sup>		in <sup>3</sup> /rev (cm <sup>3</sup> /rev)	psi (bar)	min <sup>-1</sup>		
	PLD 10•2	0.13 (2,14)	3625 (250)	4200		PLD 20•4	0.30 (4,95)	3625 (250)	4100
	PLD 10•3,15	0.20 (3,34)	3625 (250)	3990		PLD 20•6,3	0.40 (6,61)	3625 (250)	3970
	PLD 10•4	0.26 (4,27)	3625 (250)	3940		PLD 20•8	0.50 (8,26)	3625 (250)	3850
	PLD 10•5	0.33 (5,34)	3625 (250)	3680		PLD 20•11,2	0.69 (11,23)	3625 (250)	3660
	PLD 10•6,3	0.41 (6,67)	3625 (250)	3500		PLD 20•14	0.89 (14,53)	3625 (250)	3460
						PLD 20•16	1.03 (16,85)	2900 (200)	3335
						PLD 20•20	1.29 (21,14)	2900 (200)	3125
						PLD 20•25	1.61 (26,42)	2900 (200)	2900
						PLD 20•31,5	2.01 (33,03)	2900 (200)	2660

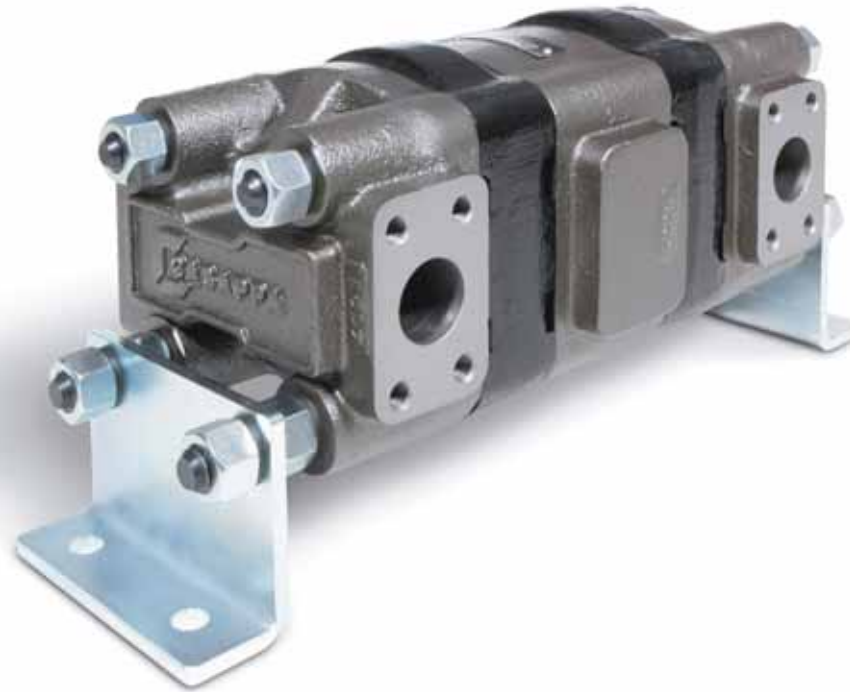




# Gear flow dividers

Gear flow dividers made of cast iron. These components can be used as flow equalizers, flow dividers and pressure intensifiers. Displacements from 1.05 in<sup>3</sup>/rev (17,28 cm<sup>3</sup>/rev) to 7.66 in<sup>3</sup>/rev (125,63 cm<sup>3</sup>/rev) available in groups 30 and 35. Max. peak pressure up to 4640 psi (320 bar).

- Modular design
- Accurate division of flow
- High flow
- Combinations between different groups



MAGNUM 30	Displacement	Max. continuous pressure	Max. speed	MAGNUM 35	Displacement	Max. continuous pressure	Max. speed
	in <sup>3</sup> /rev (cm <sup>3</sup> /rev)	psi (bar)	min <sup>-1</sup>		in <sup>3</sup> /rev (cm <sup>3</sup> /rev)	psi (bar)	min <sup>-1</sup>
HDD 30•17	1.05 (17,28)	4060 (280)	3000	HDD 35•50	3.12 (51,10)	3915 (270)	3000
HDD 30•22	1.34 (21,99)	4060 (280)	3000	HDD 35•63	3.90 (63,88)	3915 (270)	3000
HDD 30•27	1.63 (26,70)	4060 (280)	3000	HDD 35•71	4.42 (72,40)	3625 (250)	3000
HDD 30•34	2.11 (34,56)	3915 (270)	3000	HDD 35•80	4.94 (80,91)	3625 (250)	3000
HDD 30•43	2.68 (43,98)	3770 (260)	3000	HDD 35•90	5.59 (91,56)	3335 (230)	2700
HDD 30•51	3.16 (51,83)	3335 (230)	2500	HDD 35•100	6.10 (100,08)	3045 (210)	2700
HDD 30•61	3.74 (61,26)	2900 (200)	2000	HDD 35•112	6.88 (112,85)	2755 (190)	2700
HDD 30•73	4.50 (73,82)	2755 (190)	1700	HDD 35•125	7.66 (125,63)	2465 (170)	2500
HDD 30•82	4.98 (81,68)	2465 (170)	1500				



# Fixed displacement axial piston pumps

Fixed displacement bent axis piston pumps. STRADA pumps are ideally suited for PTOs applications in vehicles.

Displacements from 2.49 in<sup>3</sup>/rev (40,9 cm<sup>3</sup>/rev) to 6.71 in<sup>3</sup>/rev (110 cm<sup>3</sup>/rev) available in groups 32 and 37.

Max. peak pressure up to 5800 psi (400 bar).

Max. speed up to 2950 min<sup>-1</sup>

- Low noise level
- Direct mounting on the PTOs
- Compact design
- High speed
- High volumetric, mechanical and overall efficiency
- Available in ISO and UNI standard



STRADA 32	Displacement	Max. continuous pressure	Max. speed	STRADA 37	Displacement	Max. continuous pressure	Max. speed	
	in <sup>3</sup> /rev (cm <sup>3</sup> /rev)	psi (bar)	min <sup>-1</sup>		in <sup>3</sup> /rev (cm <sup>3</sup> /rev)	psi (bar)	min <sup>-1</sup>	
	BAP 32•40	2.49 (40,90)	5075 (350)	2950	BAP 37•80	4.83 (79,10)	5075 (350)	2500
	BAP 32•50	3.06 (50,10)	5075 (350)	2750	BAP 37•110	6.71 (110,00)	4350 (300)	2300
	BAP 32•63	3.84 (63,00)	5075 (350)	2450				
	BAP 32•71	4.37 (71,60)	4568 (315)	2250				
	BAP 32•80	4.78 (78,30)	4568 (315)	2200				



# Fixed displacement axial piston pumps and motors

Fixed displacement axial piston pumps and motors swash plate design for open circuit applications. The design is extremely compact and it can integrate many functions. An electrically controlled valve can be fitted on the pump and an electronic board controls the flow and the speed of the powered motor.

Unidirectional pumps LFP48:  
displacements from 1.65 in<sup>3</sup>/rev (27 cm<sup>3</sup>/rev) to 2.94 in<sup>3</sup>/rev (48,2 cm<sup>3</sup>/rev).

Reversible motors LFM30:  
displacements from 1.34 in<sup>3</sup>/rev (22 cm<sup>3</sup>/rev) to 1.84 in<sup>3</sup>/rev (30,2 cm<sup>3</sup>/rev).

Max. peak pressure up to 5075 psi (350 bar).

### Pump

- Possibility to have on the pressure line a three-position electrically controlled valve with relief valve
- Possibility to mount and auxiliary gear pump with common suction
- Internal drain

### Motor

- Reversible rotation with integral anti-shock valves
- European and SAE standard mounting flanges
- Side or rear inlet options
- Compact size



PUMP	Displacement	Max. continuous pressure	Max. speed	MOTOR	Displacement	Max. continuous pressure	Max. speed
	in <sup>3</sup> /rev (cm <sup>3</sup> /rev)	psi (bar)	min <sup>-1</sup>		in <sup>3</sup> /rev (cm <sup>3</sup> /rev)	psi (bar)	min <sup>-1</sup>
LFP 48•27	1.65 (27,00)	4060 (280)	2600	LFM 30•22	1.34 (22,00)	4060 (280)	4900
LFP 48•34	2.07 (34,00)	4060 (280)	2600	LFM 30•26,5	1.62 (26,50)	4060 (280)	4800
LFP 48•36,7	2.24 (36,70)	4060 (280)	2600	LFM 30•28,5	1.74 (28,50)	4060 (280)	4700
LFP 48•45,5	2.78 (45,50)	4060 (280)	2600	LFM 30•30,2	1.84 (30,20)	4060 (280)	4500
LFP 48•48	2.94 (48,20)	4060 (280)	2600				



# Variable displacement axial piston pumps

Variable displacement axial piston pumps swash plate design.

PLATA pumps are ideally suited for medium and high pressure open circuit applications.

Displacements from 1.74 in<sup>3</sup>/rev (28,49 cm<sup>3</sup>/rev) to 5.37 in<sup>3</sup>/rev (87,90 cm<sup>3</sup>/rev).

Max. peak pressure up to 5075 psi (350 bar).

Max. speed up to 3000 min<sup>-1</sup>

- Energy savings
- Low noise emission
- Short response time
- Drive shaft bearing suitable for radial and axial loads
- Multiple combinations

## Controls

- Pressure compensator
- Flow and pressure compensator (Load Sensing)
- Torque limiter
- Electrohydraulic servocontrols



PLATA LVP	Max. displacement	Max. continuous pressure	Max. speed
	in <sup>3</sup> /rev (cm <sup>3</sup> /rev)	psi (bar)	min <sup>-1</sup>
LVP 30	1.74 (28,49)	4060 (250)	3000
LVP 48	2.77 (45,47)	4060 (280)	2600
LVP 75	4.61 (75,53)	4060 (280)	2200
LVP 90	5.37 (87,90)	3625 (250)	1850



# Variable displacement axial piston pumps

Variable displacement axial piston pumps swash plate design ideally suited for open circuit in mobile hydraulic applications.

The compact design allows to be mounted directly on engine motors.

Displacements from 1.74 in<sup>3</sup>/rev (28,5 cm<sup>3</sup>/rev) to 5.12 in<sup>3</sup>/rev (84 cm<sup>3</sup>/rev).

Max. peak pressure up to 5100 psi (350 bar)

Max. speed up to 3000 min<sup>-1</sup>

- Exceptional working life expectancy
- Low noise emission
- Drive shaft bearing suitable for radial and axial loads
- Multiple combinations

## Controls

- Min. and max. displacement limiter
- Pressure compensator
- Flow and pressure compensator (Load-Sensing)
- Torque limiter

**MVP**



MVP	Max. displacement	Max. continuous pressure	Max. speed
	in <sup>3</sup> /rev (cm <sup>3</sup> /rev)	psi (bar)	min <sup>-1</sup>
MVP 30•28	1.74 (28,5)	4050 (280)	3000
MVP 30•34	2.05 (33,6)	3600 (250)	3000
MVP 48•45	2.75 (45)	4050 (280)	3000
MVP 48•53	3.23 (53)	3600 (250)	2800
MVP 60•60	3.66 (60)	4050 (280)	2700
MVP 60•72	4.39 (72)	4050 (280)	2500
MVP 60•84	5.12 (84)	3600 (250)	2500



# Variable displacement axial piston pumps

Variable displacement axial piston pumps swash plate design for open circuit applications.

SVP single flow, DVP dual flow on piston pump and an additional piggybacked gear pump.

The automatic overall torque limiter allows to optimize the performance of the machine.

SVP and DVP pumps has been designed specifically for mini excavators where compactness and ease of installation are critical.

Piston pump: displacements from 0.48 in<sup>3</sup>/rev (7,8 cm<sup>3</sup>/rev) to 1.83 in<sup>3</sup>/rev (30 cm<sup>3</sup>/rev).

Gear pump: displacements from 0.30 in<sup>3</sup>/rev (4,95 cm<sup>3</sup>/rev) to 1.29 in<sup>3</sup>/rev (21,14 cm<sup>3</sup>/rev).

Max. speed up to 2600 min<sup>-1</sup>

- Compact design
- Torque limiter
- Energy savings
- Low noise emission
- Long service life

Different combinations are available.



PISTON PUMP DVP-SVP	Max. displacement DVP	Max. displacement SVP	Max. continuous pressure	Max. speed				
	in <sup>3</sup> /rev (cm <sup>3</sup> /rev)	in <sup>3</sup> /rev (cm <sup>3</sup> /rev)	psi (bar)	min <sup>-1</sup>	Displacement	Max. continuous pressure	Max. speed	
					in <sup>3</sup> /rev (cm <sup>3</sup> /rev)	psi (bar)	min <sup>-1</sup>	
DVP 7,8	0.48x2 (7,80x2)	0.95 (15,60)	3045 (210)	2600	KP 20•4	0.30 (4,95)	4133 (285)	2600
DVP 8	0.49x2 (8,00x2)	0.98 (16,00)	3045 (210)	2600	KP 20•6,3	0.40 (6,61)	4133 (285)	2600
DVP 8,5	0.52x2 (8,50x2)	1.04 (17,00)	3045 (210)	2600	KP 20•8	0.50 (8,26)	4133 (285)	2600
DVP 9	0.55x2 (9,00x2)	1.10 (18,00)	3045 (210)	2600	KP 20•11,2	0.69 (11,23)	3988 (275)	2600
DVP 10	0.61x2 (10,00x2)	1.22 (20,00)	3045 (210)	2600	KP 20•14	0.89 (14,53)	3843 (265)	2600
DVP 11	0.67x2 (11,00x2)	1.34 (22,00)	3045 (210)	2600	KP 20•16	1.03 (16,85)	3770 (260)	2600
DVP 12,5	0.76x2 (12,50x2)	1.53 (25,00)	3045 (210)	2600	KP 20•20	1.29 (21,14)	3045 (210)	2600
DVP 14	0.85x2 (14,00x2)	1.71 (28,00)	3045 (210)	2600				
DVP 15	0.91x2 (15,00x2)	1.83 (30,00)	3045 (210)	2600				

GEAR PUMP



## Hydraulic hand pumps

Double acting hand pumps providing flow in both directions of lever movement.  
Displacement from 0.73 in<sup>3</sup>/cycle (12 cm<sup>3</sup>/cycle) to 2.75 in<sup>3</sup>/cycle (45 cm<sup>3</sup>/cycle).  
Max. pressure 4568 psi (315 bar).

- New interchangeable modular design for maximum flexibility
- Same pumping group with or without reservoir
- Suitable for auxiliary or emergency applications

**UpEasy®**



UP EASY

	Displacement	Max. pressure
	in <sup>3</sup> /cycle (cm <sup>3</sup> /cycle)	psi (bar)
EP 12	0.73 (12)	4568 (315)
EP 25	1.53 (25)	3625 (250)
EP 45	2.75 (45)	3190 (220)





# *Fluid Filtration*

**IKRON**<sup>®</sup>  
Fluid Filtration





Giuliano Bertelli  
Chief Executive Officer

**I**kron "Fluid Filtration" was established in 1997 as a company specializing in the design and manufacture of hydraulic filters. It was created as a result of Casappa's more than fifty years of experience, which have shown how important filtration is for optimizing the efficiency of hydraulic systems and lengthening the life of components. Since its foundation, Ikron has stood by procedures of the ISO 9001:2000 Standard.

This assures the care and professionalism that formulates everything it produces, from design to delivery. An important factor for the customer that relies on Ikron.

Ikron uses virtual simulation instruments during designing, which means it can analyze and predict how the products will perform when installed in the hydraulic circuit.

## Our passion for high performance

Every product is individually packaged with instructions for use and labeled, to ensure efficient warehouse management.

Ikron offers a wide choice of suction filters, return filters, in line filters, spin-on, medium and high pressure filters. Clogging indicators, level and temperature gauges, and filler breathers.

**in hydraulic drives us**



# Suction filters

## HF 410-412

Type of connection:  
BSPP-NPT



Filter type	Nominal flow up to US gpm (l/min)	Filter media	Degree of filtration µm
HF 410	79.3 (300)	Zinc plated steel	90
		Stainless steel	25-60-125-250
HF 412	37.0 (140)	Zinc plated steel	90
		Stainless steel	25-60-125-250

# Tank mounted return line filters

## HF 502-550

Type of connection:  
BSPP-NPT-SAE J514 b



Filter type	Nominal flow up to US gpm (l/min)	Working pressure psi (bar)	Filter media	Degree of filtration µm
HF 502	211.4 (800)	116 (8)	Micro-fibre glass	3-6-10-25
			Phosphor bronze	60-125
			Steel	90-250
HF 550	158.5 (600)	116 (8)	Stainless steel	25
			Cellulose	10-25
			Reinforced cellulose	10-25

# Tank mounted return line filters

## HF 547-554

Type of connection:  
 BSPP-NPT-SAE J514 b  
 Antisplash system and air breather



Filter type	Nominal flow up to US gpm (l/min)	Working pressure psi (bar)	Filter media	Degree of filtration µm
HF 547	52.8 (200)	116 (8)	Micro-fibre glass	3-6-10-25
			Phosphor bronze	60-125
			Steel	90-250
			Stainless steel	25
HF 554	52.8 (200)	116 (8)	Cellulose	10-25
			Reinforced cellulose	10-25

# Tank mounted return line filters

## HF 570-575

Type of connection:  
BSPP-NPT-SAE J514 b



Filter type	Nominal flow up to US gpm (l/min)	Working pressure psi (bar)	Filter media	Degree of filtration µm
HF 570	264.2 (1000)	116 (8)	Micro-fibre glass	10-25
HF 575			Cellulose	10-25

# In line filters spin-on

## HF 620-625-650

For suction and return line  
 Type of connection:  
 BSP-NPT-SAE J514 b-SAE 3000



Filter type	Nominal flow up to US gpm (l/min)	Working pressure psi (bar)	Filter media	Degree of filtration µm
HF 620	105.7 (400)	174 (12)	Micro-fibre glass	10-25
			Steel	60-90-125
HF 625	52.8 (200)	363 (25)	Cellulose	10-25
HF 650	37 (140)	508 (35)	Micro-fibre glass	3-6-10-16-25
			Reinforced cellulose	10-25





# In line medium and high pressure filters

**HF 690-705-725-735-745-760**

Type of connection:  
BSPP-NPT-SAE J514 b  
SAE 3000-SAE 6000-Manifold-Cetop

Filter element available for  $\Delta p$  3045 psi (210 bar)



Filter type	Nominal flow up to	Working pressure	Filter media	Degree of filtration
	US gpm (l/min)			psi (bar)
HF 690	21.1 (80)	1595 (110)	Micro-fibre glass	3-6-10-25
			Reinforced cellulose	10-25
HF 705	17.2 (65)	5075 (350)	Sintered bronze	10-25-40-60
HF 725	10.6 (40)	5075 (350)	Micro-fibre glass	3-6-10-25
			Stainless steel	10-25
HF 735	39.7 (150)	4640 (320)		
HF 745	23.8 (90)	4060 (280)	Micro-fibre glass	3-6-10-25
HF 760	105.7 (400)	6090 (420)		

## Accessories: Filler breathers - Air filters



	Type	Air flow up to US gpm (l/min)	Degree of filtration µm
Filler breathers	HB 50 - HB 70	126.8 (480)	10-40
	HB 120	422.7 (1600)	
Air filters	AF 105	264.2 (1000)	5-10
	AF 106	792.6 (3000)	5-10-25

**Accessories:** Level and temperature gauges - Pressure gauges - Pressure/Vacuum gauges clogging indicators: visual, electrical, visual differential and electrical visual differential





**Casappa S.p.A.** - Via Balestrieri, 1 - 43044 Cavalli di Collecchio - Parma (Italy) - Tel. +39 0521 304111 - Fax +39 0521 804600 - E-mail: info@casappa.com

[www.casappa.com](http://www.casappa.com)



**IKRON S.r.l.** - Via Prampolini, 2 - 43044 Lemignano di Collecchio - Parma (Italy) - Tel. +39 0521 304911 - Fax +39 0521 304900 - E-mail: info@ikron.it

[www.ikron.it](http://www.ikron.it)

