

A3PH High Pressure Piston Pumps -2022-

High Pressure Hydraulic Piston Pumps, 600-700 Bar Working Pressure,
High Pressure, High Rotational Speed, High Efficiency, Slim Design.
Cast Iron Pump Body, Re-Designed in 2022.

Designation;

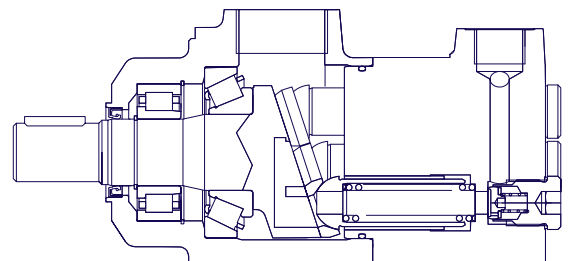
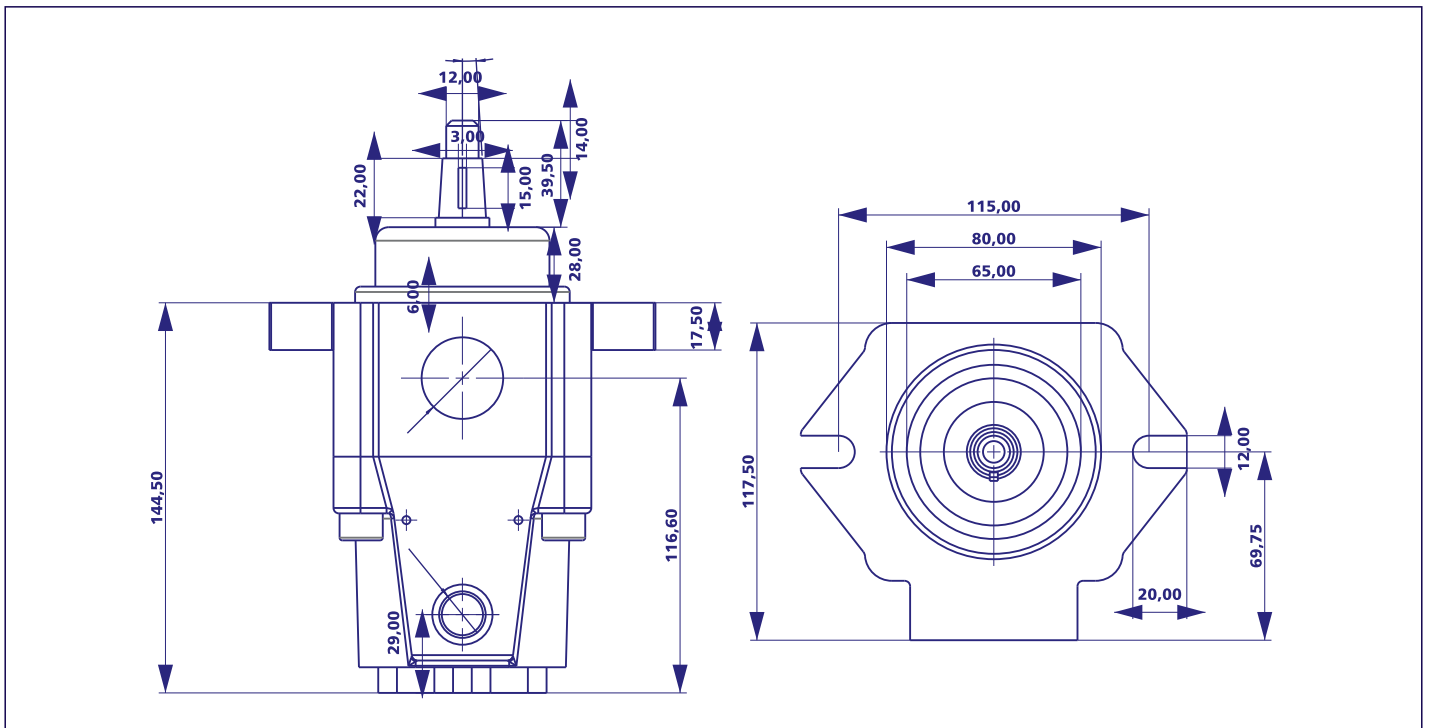
02cc, 04cc, 06cc, 12cc, 15cc,
22cc, 35cc, 45cc

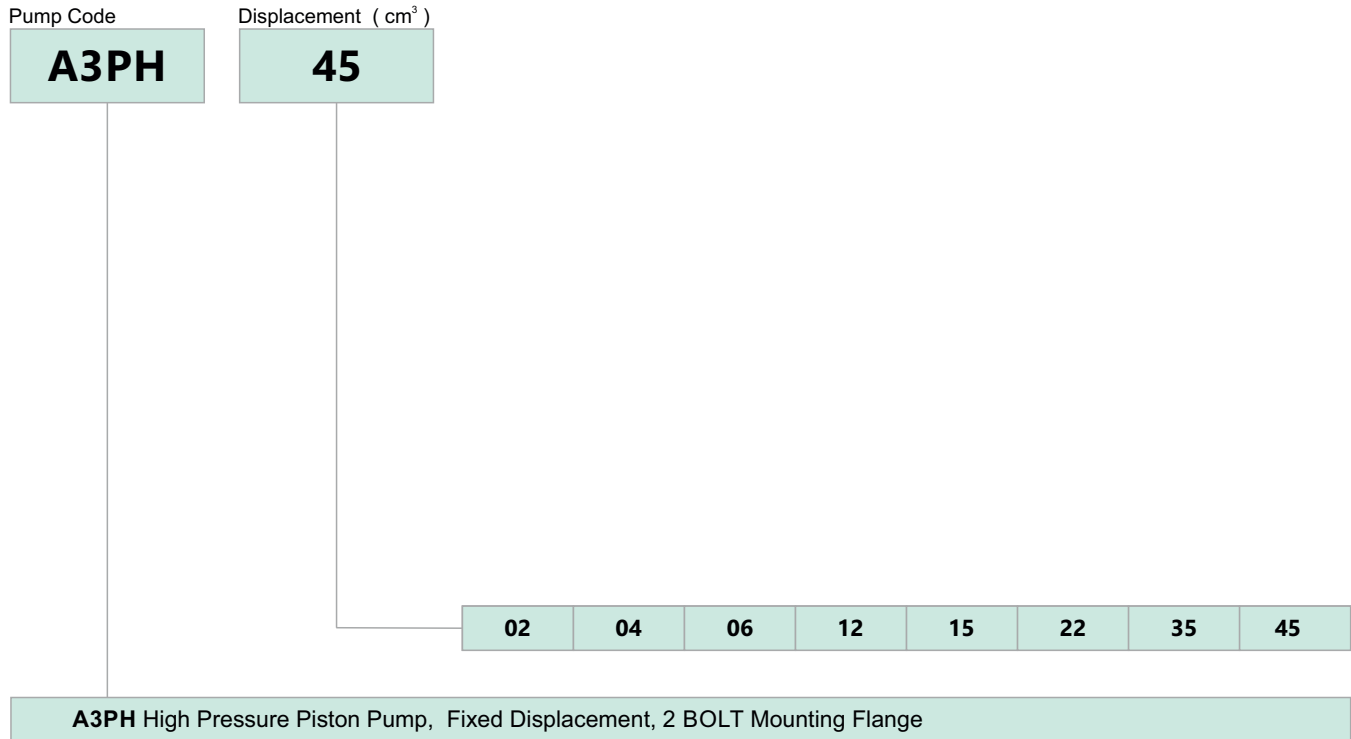


Hidrapac **Store**

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		02	04	06	12	15	22	35	45
Displacement	cc	1,56	2,70	4,40	7,80	10,50	14,73	23,70	30,40
Theoretical oil flow l/min at pump speed	1000 rpm	1,56	2,70	4,40	7,80	10,50	14,73	23,70	30,40
	1500 rpm	2,34	4,05	6,60	11,70	15,75	22,09	35,55	45,60
Maximum Pump Speed									
- Continuous	rpm	3000	3000	3000	2800	2800	2800	2500	2400
- Limited	rpm	3500	3500	3500	3000	3000	3000	2800	2700
Max. Continuous Pressure	bar	600	600	600	450	400	400	400	400
Max. Peak Pressure	bar	700	700	700	500	500	500	500	500
Weight									
- Without inlet fitting	kg	5,50	5,50	5,50	8,00	8,00	8,00	12,00	12,00
- With inlet fitting	kg	5,60	5,60	5,60	8,15	8,15	8,15	12,25	12,25
Fluid		Mineral Based Hydraulic Oils							
Inlet		G 1"	G 1"	G 1"	G1 1/4"	G1 1/4"	G1 1/4"	47,8mm	47,8mm
Outlet		G 3/8"	G 3/8"	G 3/8"	G 1/2"	G 1/2"	G 1/2"	26,4mm	26,4mm

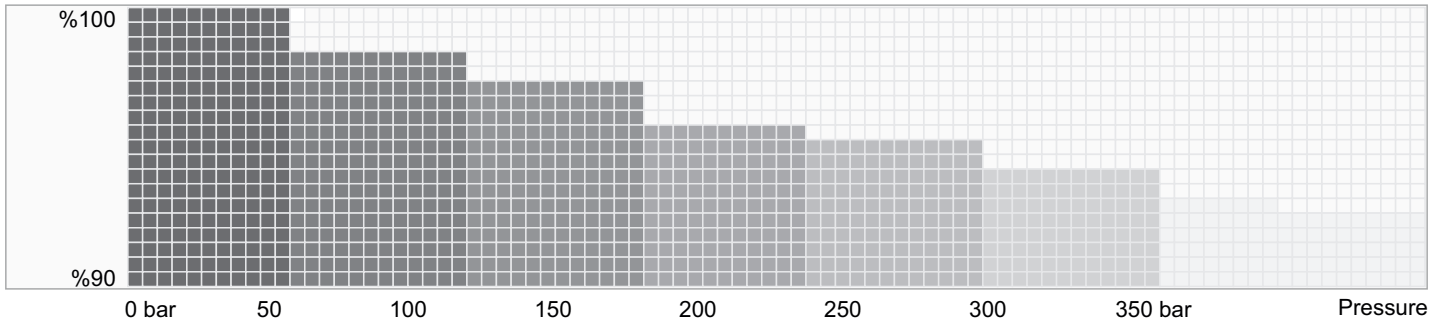




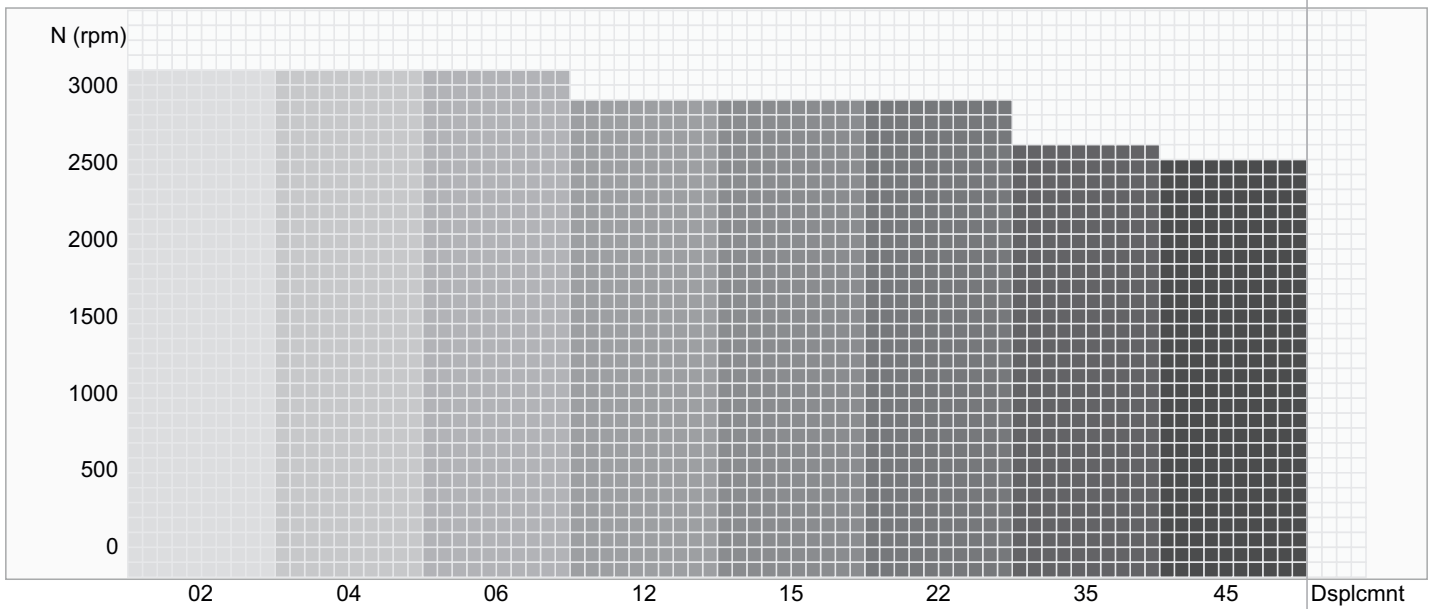
Formulas			
Pump Output Flow	GPM	$GPM = (\text{Speed (rpm)} \times \text{disp. (cu. in.)}) / 231$	$GPM = (n \times d) / 231$
Pump Input Horsepower	HP	$HP = GPM \times \text{Pressure (psi)} / 1714 \times \text{Efficiency}$	$HP = (Q \times P) / 1714 \times E$
Pump Efficiency	E	Overall Efficiency = Output HP / Input HP	$E_{\text{overall}} = \text{HP}_{\text{out}} / \text{HP}_{\text{in}} \times 100$
		Overall Efficiency = Volumetric Eff. \times Mechanical Eff.	$E_{\text{overall}} = \text{EffVol.} \times \text{EffMech.}$
Pump Volumetric Efficiency	E	Volumetric Efficiency = Actual Flow Rate Output (GPM) / Theoretical Flow Rate Output (GPM) \times 100	$\text{EffVol.} = Q_{\text{act.}} / Q_{\text{theo.}} \times 100$
Pump Mechanical Efficiency	E	Mechanical Efficiency = Theoretical Torque to Drive / Actual Torque to Drive \times 100	$\text{EffMech} = T_{\text{theo.}} / T_{\text{act.}} \times 100$
Pump Displacement	CIPR	$\text{Dsplcmnt (In.}^3 \text{ / rev.)} = \text{Flow Rate (GPM)} \times 231 / \text{Pump RPM}$	$\text{CIPR} = \text{GPM} \times 231 / \text{RPM}$
Pump Torque	T	Torque = Horsepower \times 63025 / RPM	$T = 63025 \times \text{HP} / \text{RPM}$
		Torque = Pressure (PSIG) \times Pump Displacement (CIPR) / 2 π	$T = P \times \text{CIPR} / 6.28$

- Horsepower for driving a pump** : For every 1 hp of drive, the equivalent of 1 gpm @ 1500 psi can be produced.
- Horsepower for idling a pump** : To idle a pump when it is unloaded will require about 5% of it's full rated power
- Wattage for heating hydraulic oil** : Each watt will raise the temperature of 1 gallon of oil by 1° F. per hour.
- Flow velocity in hydraulic lines** : Pump suction lines 2 to 4 feet per second, pressure lines up to 500 psi - 10 to 15 ft./sec., pressure lines 500 to 3000 psi - 15 to 20 ft./sec.; all oil lines in air-over-oil systems; 4 ft./sec.

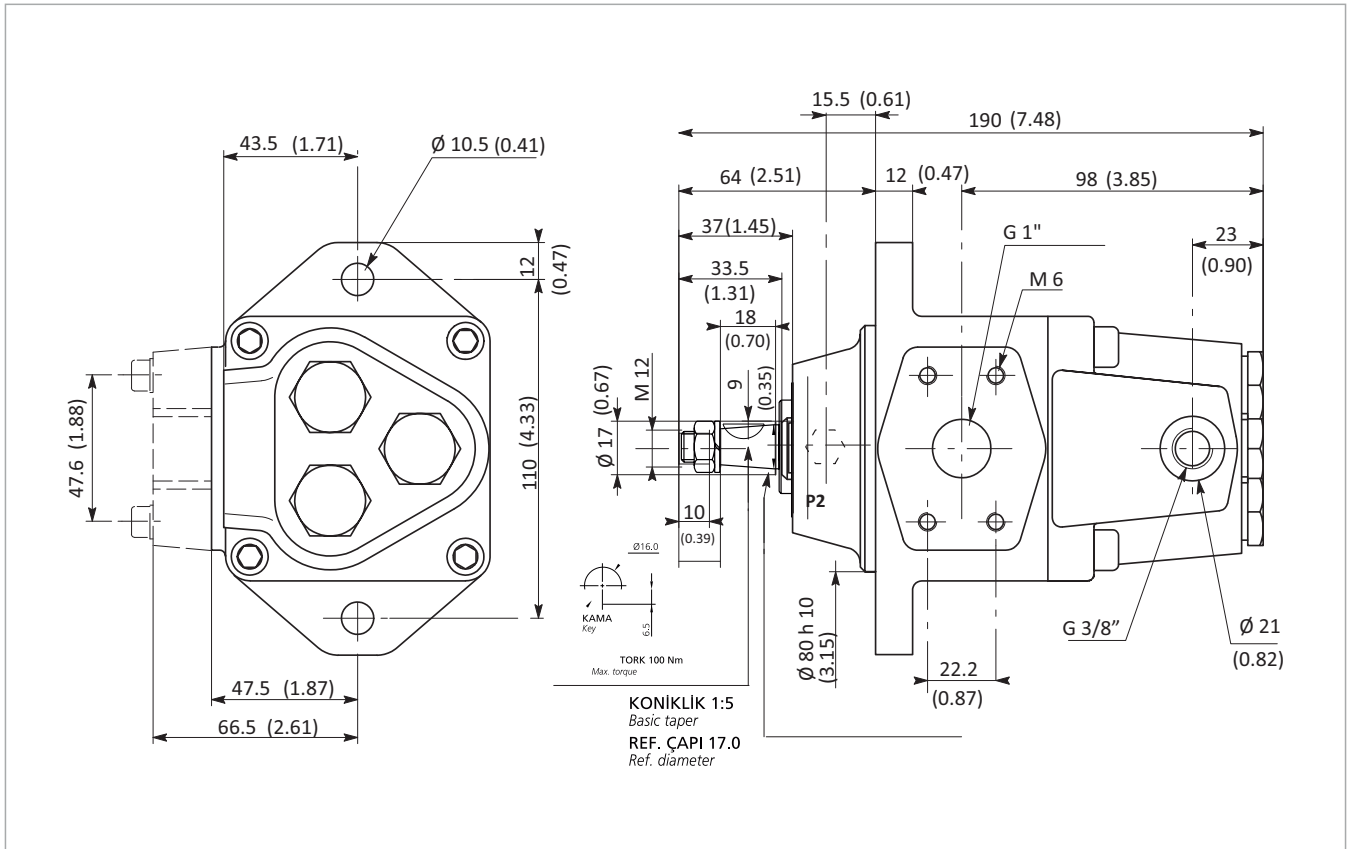
Efficiency Curves (1000 rpm)



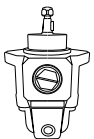
Flow



A3PH 02cc - High Pressure Piston Pump



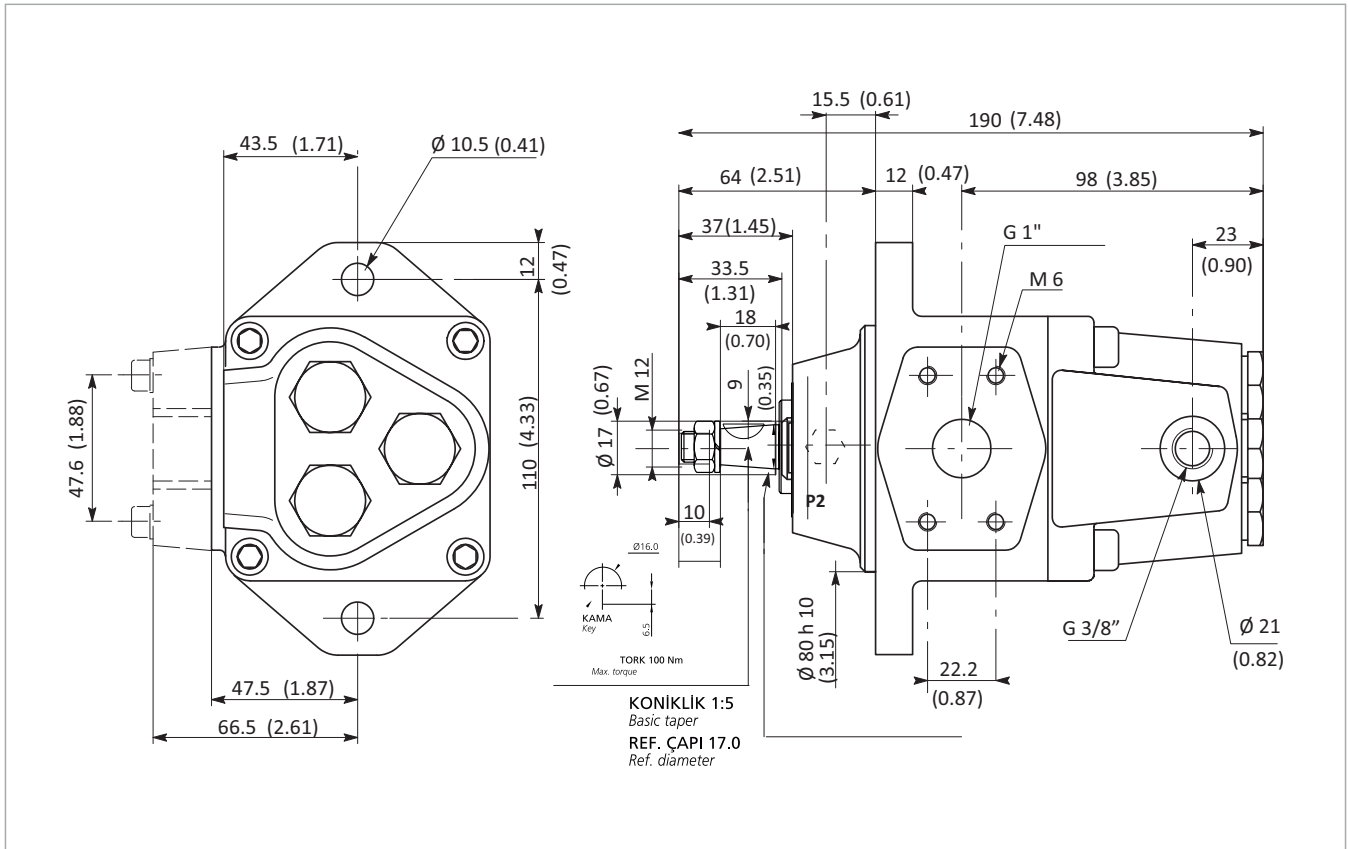
x 1000 rpm	1,56 cc
x 1500 rpm	2,34 cc
Max. Continuous Pump Speed	3000 rpm
Max. Limited Pump Speed	3500 rpm
Max. Continuous Pressure	600 bar
Max. Intermit. Peak Pressure	700 bar
Weight without inlet fitting	5,50 kg
Weight with inlet fitting	5,60 kg
Fluid	Min.B.Hyd.Oil
Inlet	G 1"
Outlet	G 3/8"



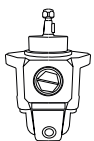
CW

Rotation :
Fixed-Clock Wise

A3PH 04cc - High Pressure Piston Pump



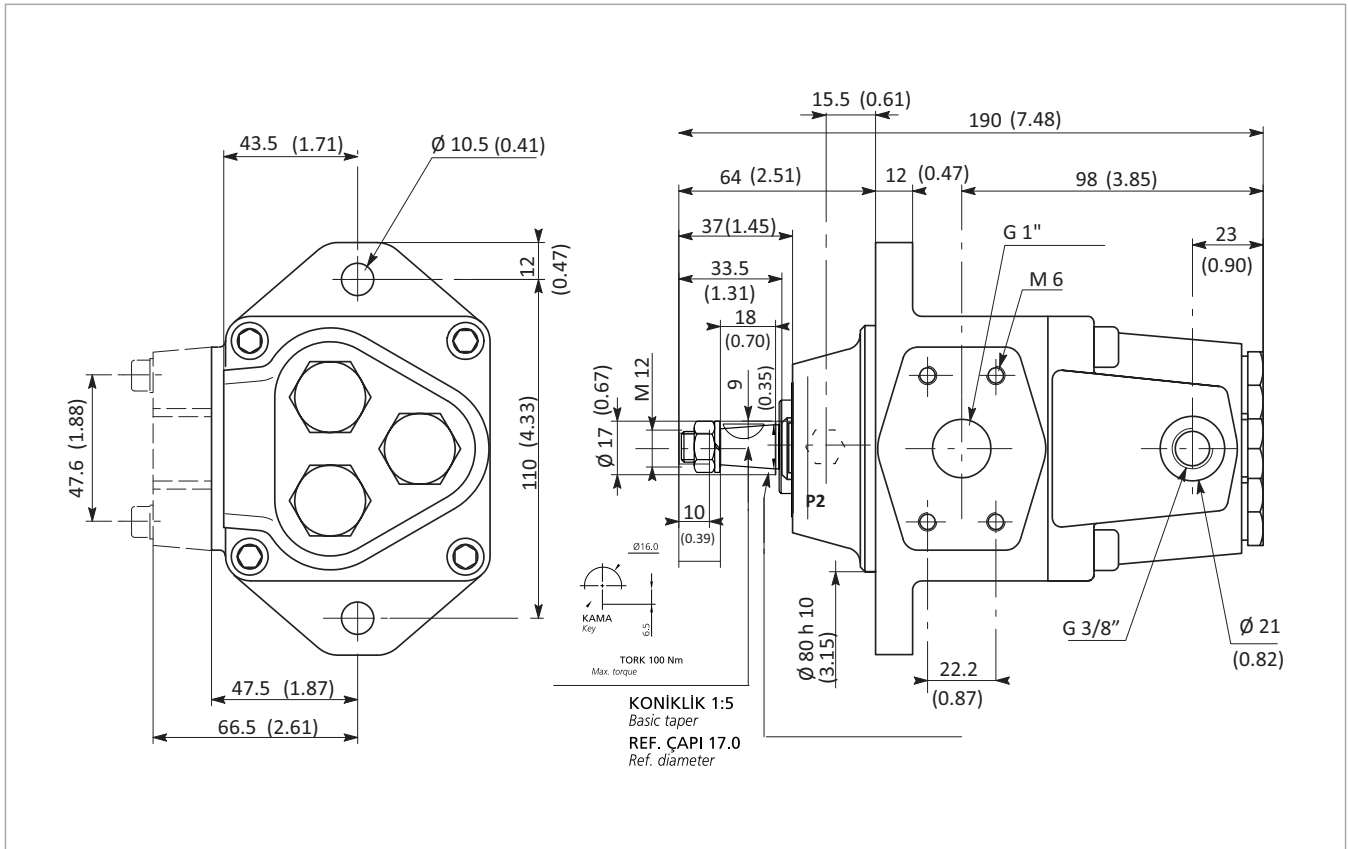
x 1000 rpm	2,70 cc
x 1500 rpm	4,05 cc
Max. Continuous Pump Speed	3000 rpm
Max. Limited Pump Speed	3500 rpm
Max. Continuous Pressure	600 bar
Max. Intermit. Peak Pressure	700 bar
Weight without inlet fitting	5,50 kg
Weight with inlet fitting	5,60 kg
Fluid	Min.B.Hyd.Oil
Inlet	G 1"
Outlet	G 3/8"



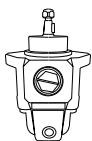
CW

Rotation :
Fixed-Clock Wise

A3PH 06cc - High Pressure Piston Pump



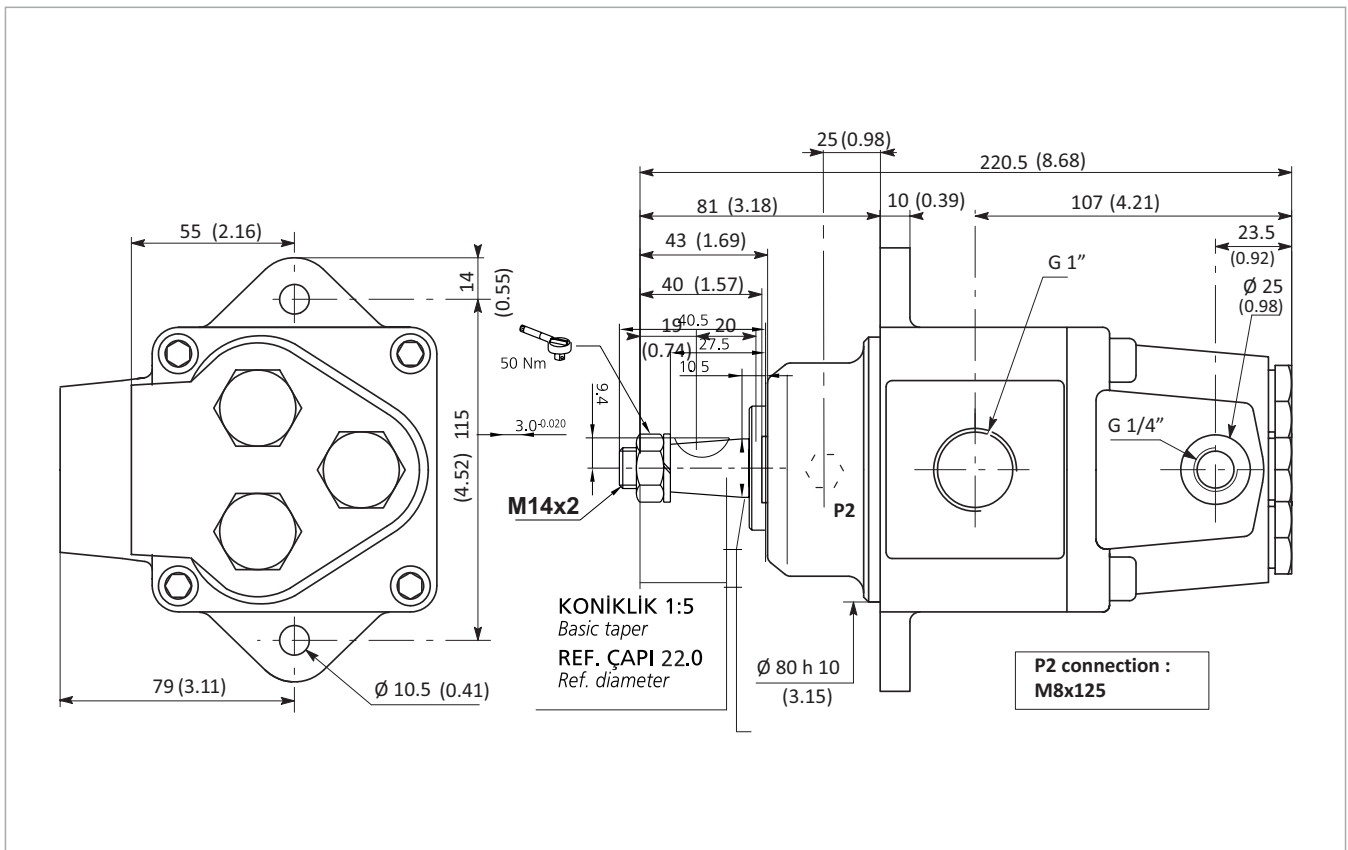
x 1000 rpm	4,40 cc
x 1500 rpm	6,60 cc
Max. Continuous Pump Speed	3000 rpm
Max. Limited Pump Speed	3500 rpm
Max. Continuous Pressure	600 bar
Max. Intermit. Peak Pressure	700 bar
Weight without inlet fitting	5,50 kg
Weight with inlet fitting	5,60 kg
Fluid	Min.B.Hyd.Oil
Inlet	G 1"
Outlet	G 3/8"



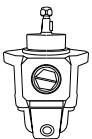
CW

Rotation :
Fixed-Clock Wise

A3PH 12cc - High Pressure Piston Pump



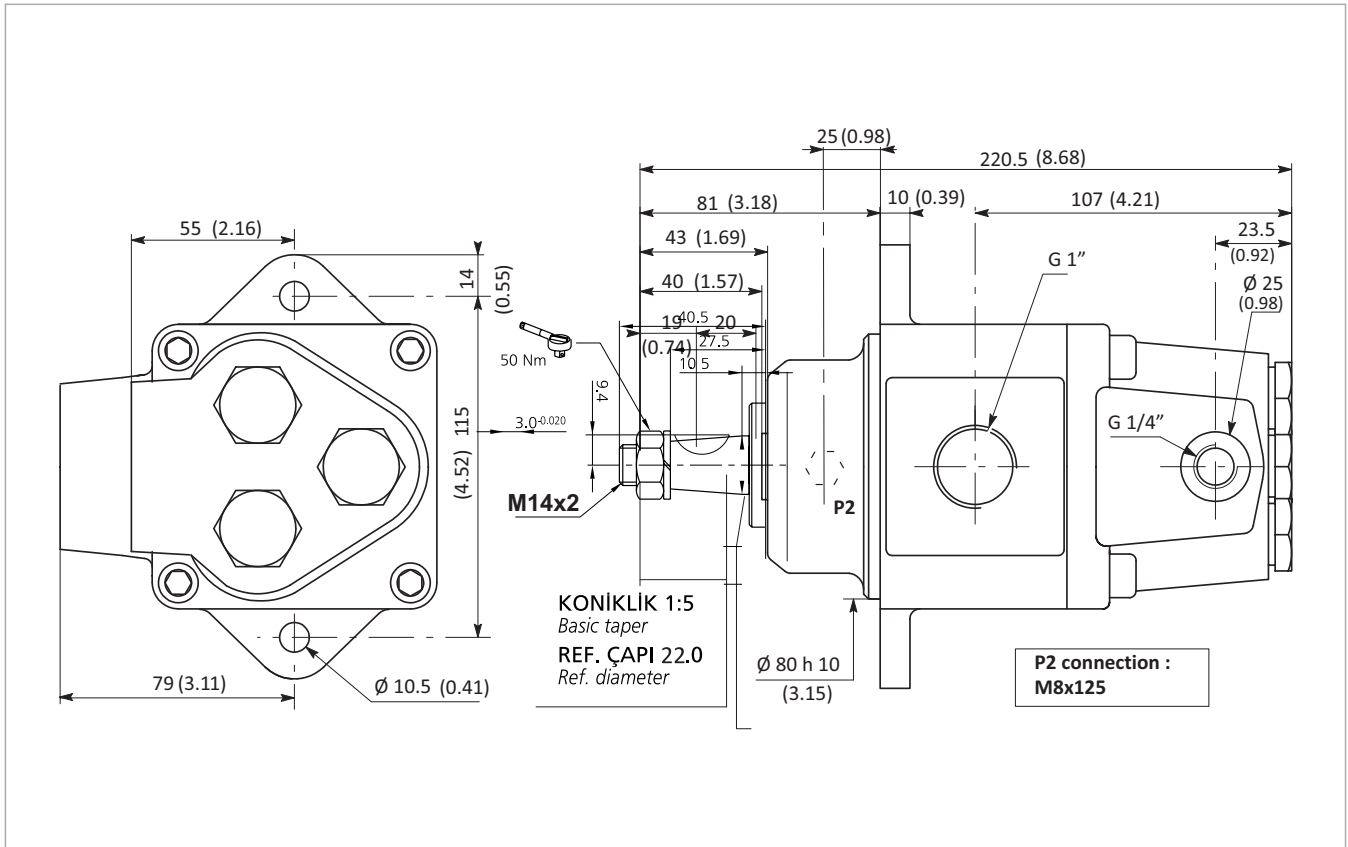
x 1000 rpm	7,80 cc
x 1500 rpm	11,70 cc
Max. Continuous Pump Speed	2800 rpm
Max. Limited Pump Speed	3000 rpm
Max. Continuous Pressure	450 bar
Max. Intermit. Peak Pressure	500 bar
Weight without inlet fitting	8,00 kg
Weight with inlet fitting	8,15 kg
Fluid	Min.B.Hyd.Oil
Inlet	G1 1/4"
Outlet	G 1/2"



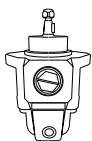
CW

Rotation :
Fixed-Clock Wise

A3PH 15cc - High Pressure Piston Pump



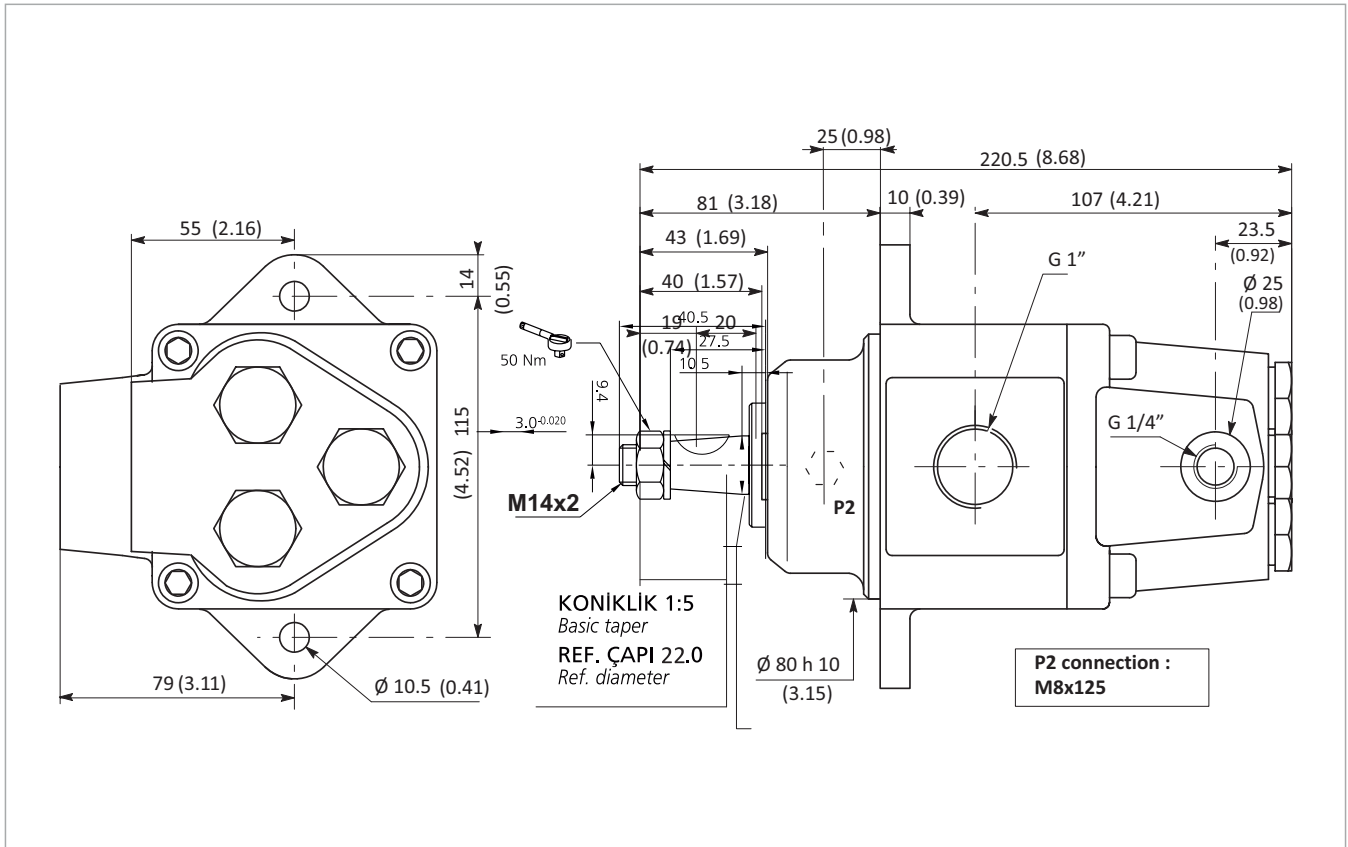
x 1000 rpm	10,50 cc
x 1500 rpm	15,75 cc
Max. Continuous Pump Speed	2800 rpm
Max. Limited Pump Speed	3000 rpm
Max. Continuous Pressure	400 bar
Max. Intermit. Peak Pressure	450 bar
Weight without inlet fitting	8,00 kg
Weight with inlet fitting	8,15 kg
Fluid	Min.B.Hyd.Oil
Inlet	G1 1/4"
Outlet	G 1/2"



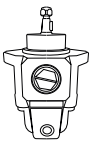
CW

Rotation :
Fixed-Clock Wise

A3PH 22cc - High Pressure Piston Pump



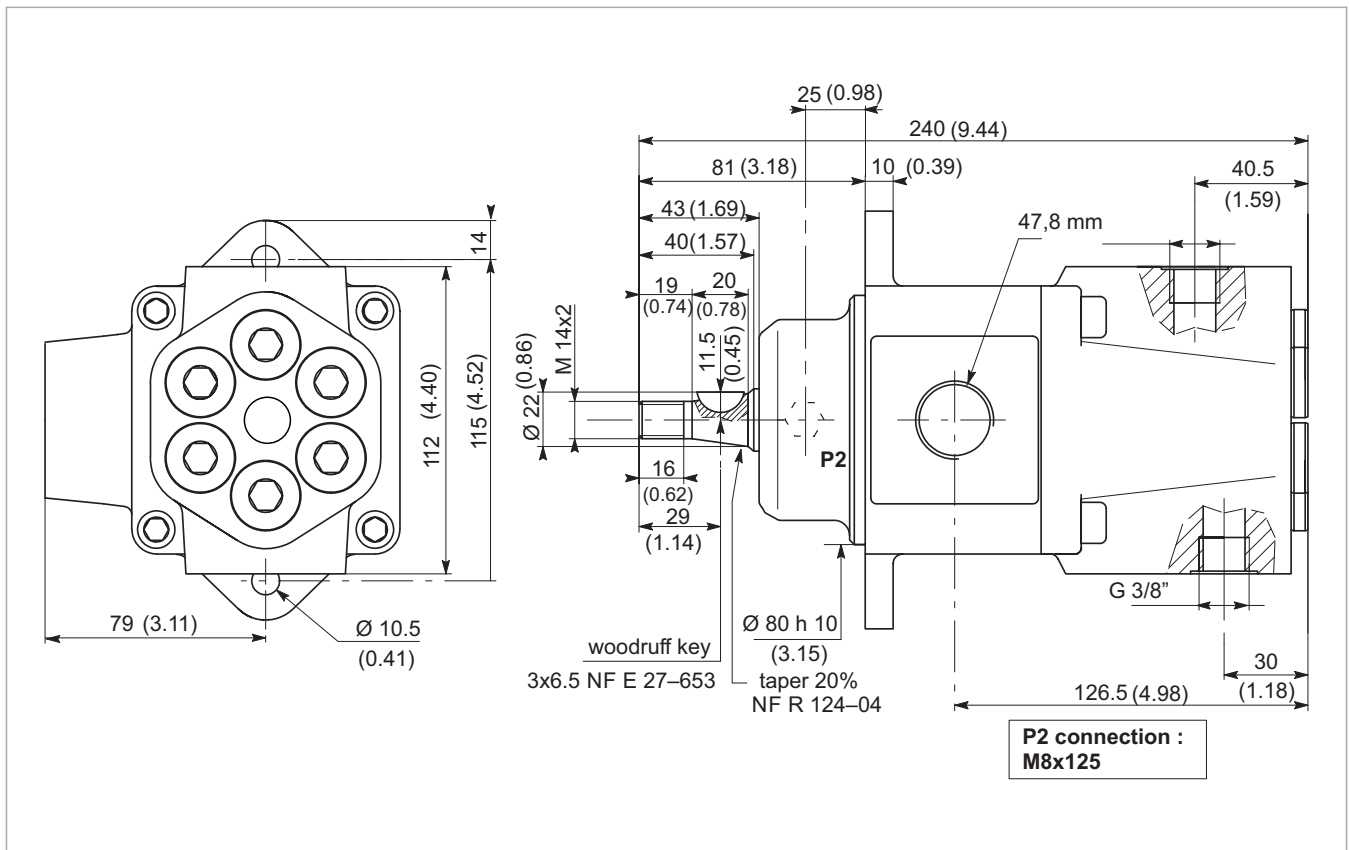
x 1000 rpm	14,73 cc
x 1500 rpm	22,09 cc
Max. Continuous Pump Speed	2800 rpm
Max. Limited Pump Speed	3000 rpm
Max. Continuous Pressure	400 bar
Max. Intermit. Peak Pressure	500 bar
Weight without inlet fitting	8,00 kg
Weight with inlet fitting	8,15 kg
Fluid	Min.B.Hyd.Oil
Inlet	G1 1/4"
Outlet	G 1/2"



CW

Rotation :
Fixed-Clock Wise

A3PH 35cc - High Pressure Piston Pump



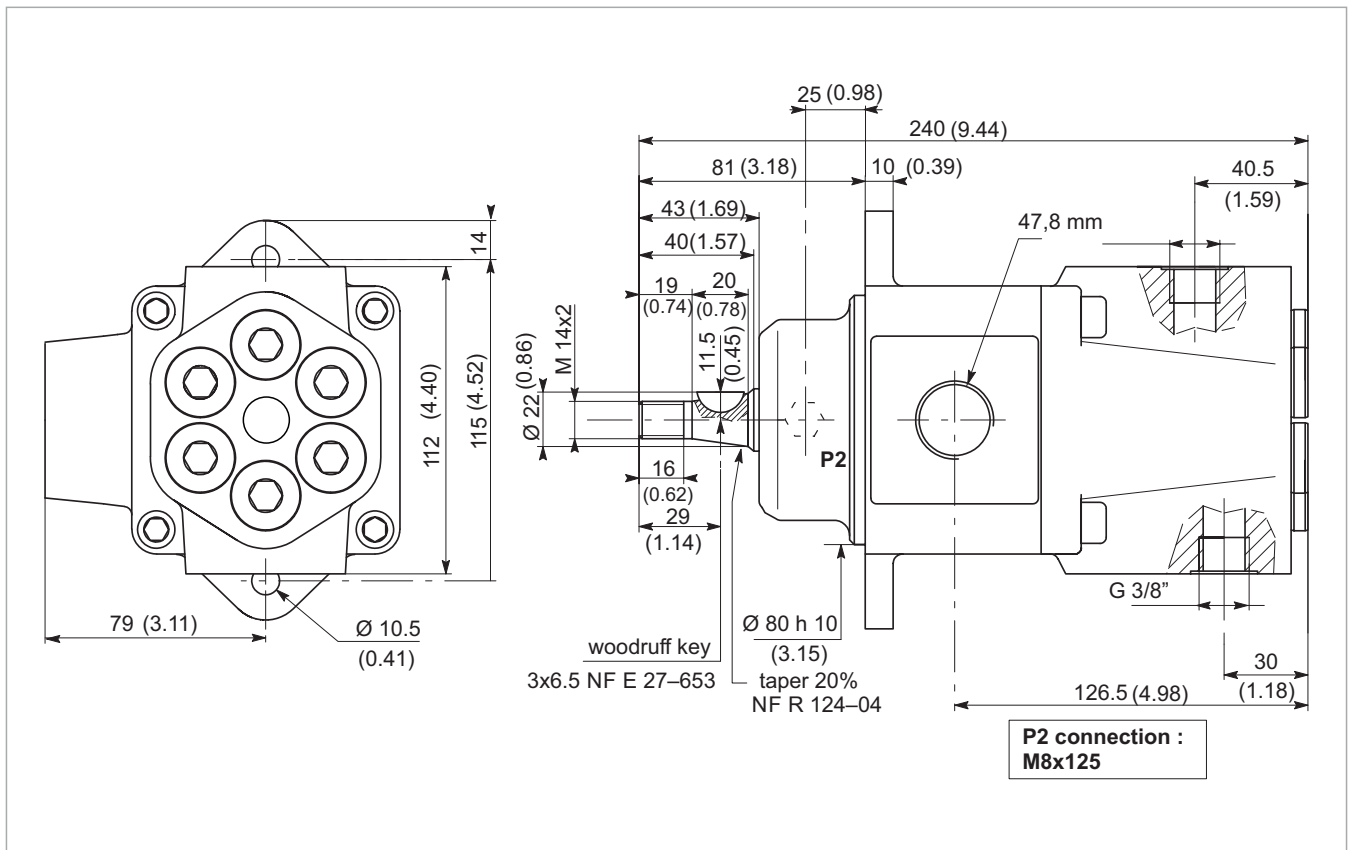
x 1000 rpm	23,70 cc
x 1500 rpm	35,55 cc
Max. Continuous Pump Speed	2500 rpm
Max. Limited Pump Speed	2800 rpm
Max. Continuous Pressure	400 bar
Max. Intermit. Peak Pressure	500 bar
Weight without inlet fitting	12,00 kg
Weight with inlet fitting	12,25 kg
Fluid	Min.B.Hyd.Oil
Inlet	47,8mm
Outlet	26,4mm



CW

Rotation :
Fixed-Clock Wise

A3PH 45cc - High Pressure Piston Pump



x 1000 rpm	30,40 cc
x 1500 rpm	45,60 cc
Max. Continuous Pump Speed	2400 rpm
Max. Limited Pump Speed	2700 rpm
Max. Continuous Pressure	400 bar
Max. Intermit. Peak Pressure	500 bar
Weight without inlet fitting	12,00 kg
Weight with inlet fitting	12,25 kg
Fluid	Min.B.Hyd.Oil
Inlet	47,8mm
Outlet	26,4mm



CW

Rotation :
Fixed-Clock Wise

High Pressure Piston Pumps designed for Industrial Area.

INSTALLATION

- Remove the protective covers off the inlet and output ports when connecting tubes or hosing.
- Rinse the tank and the tubes or hoses well to remove any possible contaminants.
- Before connecting up the pump inlet port, fill the tank and allow the oil to flow into a receptacle. This oil can be re-used after proper filtration.

OIL SUPPLY

Oil and supply line should be clean, and the supply line is airtight.

SUCTION LINE

Connect the suction line, tighten the suction connection bolts in diametric pairs.
Connect the pressure line.

REPAIR

We offers a comprehensive range of services for the repair of our Piston Pumps.
Repairs to the High Pressure Pump may only be performed by authorized, skilled and instructed personnel.
Only use original and pre-installed our spare parts from supplied to Manufacturer..

Tested and pre-installed pumps successful repair requiring only little time.

SPARE PARTS

The spare parts list and the pump order specific.
When ordering spare parts, quote the material and complete Ordering code number of the Piston Pump as well as the right numbers of the spare parts.

RISK OF DAMAGE!

Do not touch the drive shaft of the Piston Pump
Do not touch sensor, valves and fittings
Do not touch sealing surfaces.

DIMENSIONS & WEIGHTS

		02	04	06	12	15	22	35	45
- Without inlet fitting	kg	5,50	5,50	5,50	8,00	8,00	8,00	12,00	12,00
- With inlet fitting	kg	5,60	5,60	5,60	8,15	8,15	8,15	12,25	12,25

Address all questions regarding spare parts to your responsible Our Service Partner or the technical service department of the manufacture's plant / factory for the Piston Pumps.

**AVAILABLE VIA E-MAIL ON REQUEST OR EACH PUMP IS
SUPPLIED VIA STARTING AND INSTALLATION DATASHEETS**

Complete Product Range

Bent Axis Piston Motors

K2FM (DIN) Bent Axis Motor
K3FH (HYBRID) Bent Axis Motor
A2MS (SAE) Bent Axis Motor
A3MS (SAE2) Bent Axis Motor
A2FM (ISO) Bent Axis Motor
A2FE (Fixed Plugin) Bent Axis Motor
A2FE (Two Speed) Bent Axis Motor
A2FT 45 (Inline) Bent Axis Motor

Bent Axis Piston Pumps

K2FA (DIN) Bent Axis Pump
K2FH (HYBRID) Bent Axis Pump
K2FL (Aluminum) Bent Axis Pump
A2FS (SAE) Bent Axis Pump
A3FS (SAE2) Bent Axis Pump
A2FO (ISO) Bent Axis Pump
A3FO (ISO2) Bent Axis Pump
A2FP (Fixed Plugin) Bent Axis Pump

Variable Displacement Motors

AXMV Variable Piston Motor
AXMA Variable Piston Motor
AXMI Variable Piston Motor

Variable Displacement Pumps

AXVP Variable Piston Motor
AXVA Variable Piston Motor
AXVI Variable Piston Motor

Dual Flow Piston Pumps

A2FD (DIN) Dual Flow Pumps
A2FD (SAE) Dual Flow Pumps
A2PD Axial Dual Output Pumps

Axial Piston & Gear Pumps

A3PP Axial Piston Pumps
A3PH High Pressure Pumps
A2GP Gear Pumps
A2GPT Tandem Gear Pumps
A2GM Gear Motors
A2GMT Tandem Gear Motors

Valve (ByPass) (Flushing) (Cavitation)

Circulation Valve
ByPass Valve
Anti-Cavitation Valve
Flushing Valve
LS Valve
AntiShock Valve
Speed Sensor

Hydraulic Spare Parts

Suction Fittings
Couplars
Adapters
Flanges
Power Take Off
Monoblock Valve
Section Valve

Hydraulic Pumps, Motors

Bent Axis Hydraulic Piston Motors, Bent Axis Hydraulic Piston Pumps, Hydraulic Piston Pumps, Variable Displacement Piston Pumps, Variable Displacement Piston Motors, Axial Piston Pumps, High Pressure Piston Pumps, Gear Pumps, Gear Motors, Hydraulic Valve.

www.HIDRAPAC.com

Address;

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