

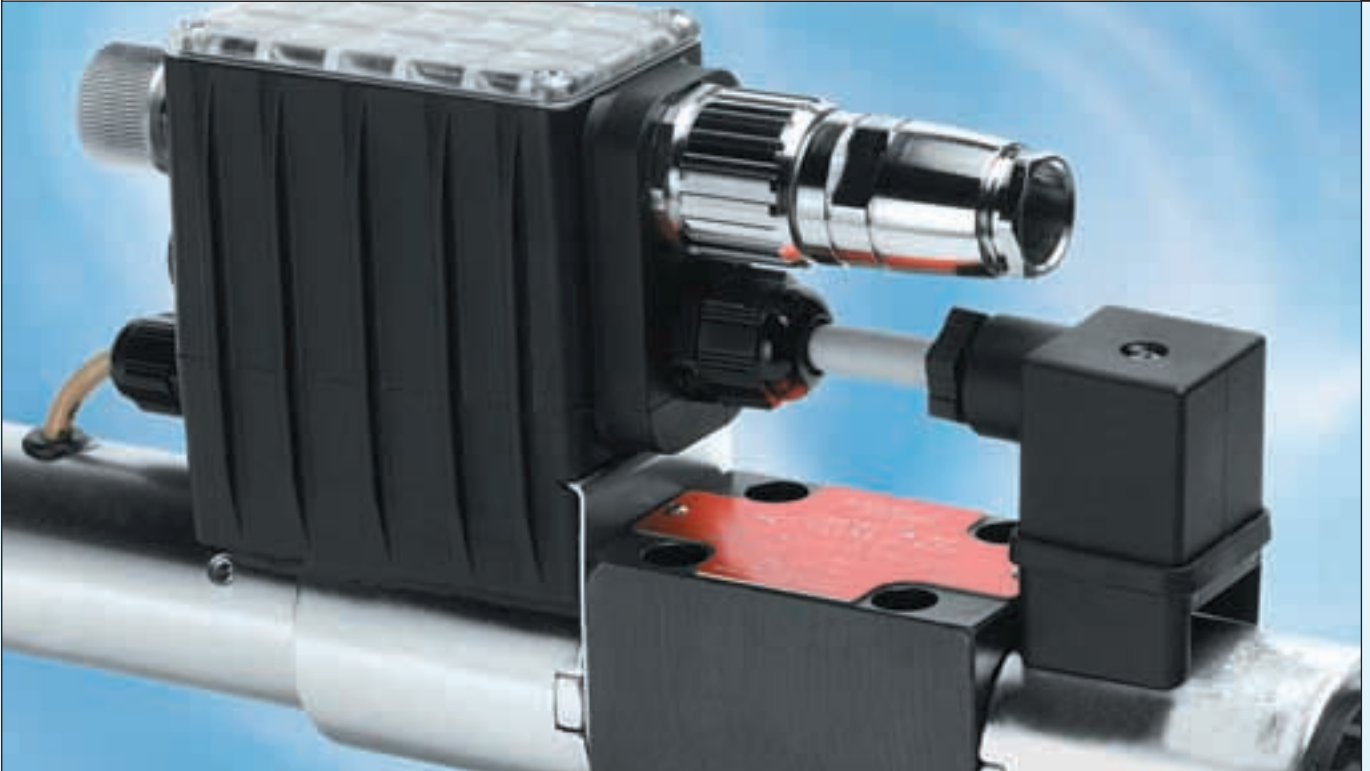


Program Summary

Fluid & Motion Control
Filtration & Fluid Management
Sensors & Measurement

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Fluid & Motion Control ARGO-HYTOS' expertise in control technology is gained from more than 50 years' experience. We focus here on a wide range of valves, power units and integrated manifolds featuring all commonly used design features and functions, together with proportional valves and the associated control electronics:

- **direct operated directional valves in CETOP 02 to CETOP 05 and pilot operated valves in CETOP 07 and CETOP 08**
- **valves subplate and sandwich type – flow control, pressure and check valves in CETOP 02 to CETOP 05**
- **cartridge valves**
- **direct operated proportional valves with compensator sandwich valve, in CETOP 02 to CETOP 05**
- **analog and digital electronic control units – on-board, or for installation in control cabinets**
- **power pack assembly kits**
- **customized control blocks**

We especially focus on developing customised solutions based on tried-and-tested fundamental technologies, specifically adapted to the requirement profiles in each individual case.



Directional Control Valves, solenoid operated

Size	NG04 to NG25
Pressure [bar]	up to 350
Flow [l/min]	up to 600



Directional Control Valves, other operations

Size	NG04 to NG10
Pressure [bar]	up to 350
Flow [l/min]	up to 140



Directional Control Valves

Size	NG03
Pressure [bar]	up to 250
Flow [l/min]	up to 20



Screw-in Cartridge Valves

Pressure [bar]	up to 420
Flow [l/min]	up to 60



**Proportional Directional Control Valves /
Electronics / Pressure Compensators**

Pressure [bar] up to 320
Flow [l/min] up to 60



Pressure Control Valves

Pressure [bar] up to 350
Flow [l/min] up to 150



Check Valves

Pressure [bar] up to 350
Flow [l/min] up to 400



Flow Control Valves

Pressure [bar] up to 350
Flow [l/min] up to 100



Overcentre Valves

Pressure [bar] up to 350
Flow [l/min] up to 180



Connection Plates, Manifold Plates

Size	NG04 to NG10
Pressure [bar]	up to 350
Flow [l/min]	up to 140



Assembly Kits for Compact Hydraulic Power Packs

Motor output [kW]	up to 3
Pressure [bar]	up to 250
Flow [l/min]	up to 17

Customized Power Packs

Motor output [kW]	up to 7.5
Pressure [bar]	up to 320



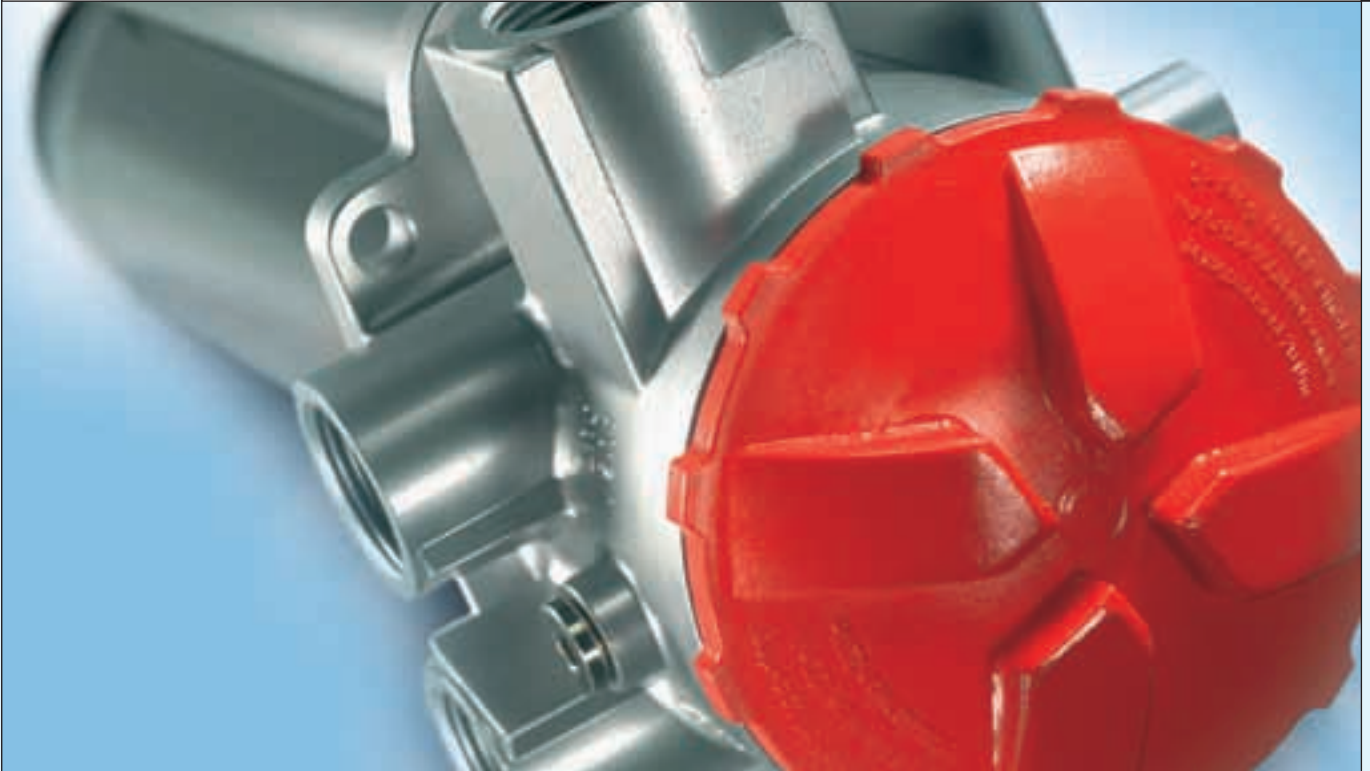
Power Units with Oil Immersed Electric Motor

Motor output [kW]	up to 1.5
Pressure [bar]	up to 250
Flow [l/min]	up to 17



Customized Control Blocks

Pressure [bar]	up to 320
Flow [l/min]	up to 140



Filtration ARGO-HYTOS manufactures sophisticated filter solutions, mainly applied in hydraulic and lubrication systems as well as in transmissions. The range of solutions that have been implemented extend from stationary industrial plants to mobile applications.

Next to customized developments, that are precisely tailored to customer individual requirements, ARGO-HYTOS offers a comprehensive range of innovative standard solutions for a wide variety of sectors:

- **suction filters**
- **return-suction filters and return filters**
- **pressure and high-pressure filters**
- **filling and ventilating filters**
- **filter accessories**



Suction Strainers

Nominal flow rate [l/min]	up to 350
Fineness [μm (c)]	100
Hose connection [Ø]	32...60,5
Connection	G $1\frac{1}{2}$...G2 $\frac{1}{2}$

Screen elements with female thread to be installed in the suction line of the pump or with a hose connection for mounting in tanks.



Suction Filters

Nominal flow rate [l/min]	up to 130
Fineness [μm (c)]	16...60
Connection	G $\frac{3}{4}$...G1 $\frac{1}{4}$ SAE 1 $\frac{1}{2}$...SAE 2

Tank top mounting, optionally with foot valve for horizontal mounting.



Return-Suction Filters

Nominal flow rate [l/min]	up to 850
Pressure [bar]	up to 10
Fineness [μm (c)]	10, 16
Connection	G $\frac{3}{4}$...G1 $\frac{1}{2}$ SAE 1 $\frac{1}{2}$...SAE 2 $\frac{1}{2}$

Tank top mounting, with boost pump connection (0.5 bar charge pressure) for hydrostatic drives.



Return Filters

Nominal flow rate [l/min]	up to 900
Pressure [bar]	up to 16
Fineness [μm (c)]	5...100
Connection	Ø 17.5...Ø 20.5 (hose connection) G $1\frac{1}{2}$...G1 $\frac{1}{2}$ SAE 2...SAE 2 $\frac{1}{2}$

Tank top mounting or for mounting in a separate return flow tank section, optionally with integrated replaceable ventilating filter (2 μm (c)), resp. extension pipe and diffuser.



Pressure Filters

Nominal flow rate [l/min]	up to 2000
Pressure [bar]	up to 100
Fineness [μm (c)]	5...30
Connection	G $1\frac{1}{2}$...G $1\frac{1}{2}$

Tank top mounting, clogging indicator electrical and/or optical on request.



High Pressure Filters

Nominal flow rate [l/min]	up to 1000
Pressure [bar]	up to 600
Fineness [μm (c)]	5...30
Connection	2 x \varnothing 15, 2 x \varnothing 31 (Flange Connection) G $1\frac{1}{2}$...G $1\frac{1}{2}$ SAE $1\frac{1}{4}$...SAE 2 M65 x 1.5...M108 x 1.5 (Filter Kits)

Block mounting / In-line mounting / Flange connection, optionally reverse flow function, clogging indicator electrical and/or optical on request.



High Pressure Safety Filters

Nominal flow rate [l/min]	up to 100
Pressure [bar]	up to 315
Fineness [μm (c)]	60, 100
Connection	G $\frac{3}{4}$ M22 x 1.5...M26 x 1.5



Filling and Ventilating Filters

Air flow [l/min]	up to 850
Oil flow [l/min]	up to 140
Fineness [μm (c)]	2
Connection	G $\frac{3}{4}$ M18 x 1.5...M60 x 2

Regulation of pressure changes in the reservoir and oil level indication. Options: Double check valve, dipstick, "Vandalism proof"-types.



Manometers

Optical	
Green/red area [bar]	-0.25 1.0 / 2.0

Pressure Switches

Electrical	
Switching pressure [bar]	-0.15, -0.25 1.2...2.5

Monitors the clogging condition of Suction, Return and Return-Suction Filters.



Differential Pressure Indicators

Optical	
Response pressure [bar]	2...5

Differential Pressure Switches

electrical/optical	
Switching Pressure [bar]	1.2...5

Monitors the clogging condition of Pressure and High Pressure Filters.

Option: 2 switching points, temperature suppression



Oil Level Gauges with Thermometer

Level range [mm]	33...194
Temperature scale [°C]	-10...+80

Indicates the oil level and the oil temperature in hydraulic oil or lubricant reservoirs.

Dipsticks

Dipstick length [mm]	100...640
Bolt thread	M10

Checks the oil level in hydraulic oil or lubricant reservoirs.



Customized Filter Solutions

Customized filter and system solutions for special applications developed and designed in cooperation with our customers.



Fluid Management As well as reducing maintenance and servicing costs, efficient fluid management is also a key factor in boosting the reliability, productivity and cost-effectiveness of the operation. ARGO-HYTOS supplies application-oriented products for manual and automatic cleaning of hydraulic fluids:

- **off-line filters**
- **off-line filter units**
- **filter cooling systems**
- **oil service units**
- **dewatering units**



Off-line Filters

Nominal flow rate [l/min]	up to 370 (with flow control valve: up to 12 l/min)
Operating pressure [bar]	up to 12 (with flow control valve: up to 350 bar)
Fineness [μm (c)]	3...12
Connection	up to G $1/4$...G1 SAE 2 $1/2$

Off-line filters for application in low pressure circuits or with flow control valve for connection to the high pressure line.



Off-line Filter Units

Nominal flow rate [l/min]	up to 45
Operating pressure [bar]	up to 6
Fineness [μm (c)]	3, 5
Electro Motor Types	1~110 V (50...60 Hz) 1~230 V (50...60 Hz) 3~400 V / 460 V (50...60 Hz) 24 V DC
Connection	up to G1

Filter Units for first fit or for retrofitting in existing systems.



Filter Cooling Systems

Nominal flow rate [l/min]	bis 150
Operating pressure [bar]	bis 10
Filter fineness [μm (c)]	3, 5
Cooling capacity	up to 45 kw

Filter Cooling Systems used as main flow-filter or off-line filter.



Oil Service Units

Nominal flow rate [l/min]	up to 45
Operating pressure [bar]	up to 6
Fineness [μm (c)]	3, 5
Electro Motor Types	1~110 V (50...60 Hz) 1~230 V (50...60 Hz) 3~400 V / 460 V (50...60 Hz) 24 V DC

Filter Units for cleaning in off-line filtration or filling systems by using ultra-fine filter elements. Optionally with particle monitor or programable oil diagnostic system.



Dewatering Units

Nominal flowrate [l/min]	up to 10
Operating pressure [bar]	up to 4
Fineness [μm (c)]	5

With dewatering units large quantities of free water can be removed from the oil. The water content is constantly monitored with the water sensor LubCos H₂Oplus II.



Water Absorbing Filter Elements

Small quantities of remaining water can be withdrawn by water absorbing filter elements. Water absorbing filter elements fit in standard versions of off-line filters and filter units.



Sensors & Measurement

Systems that provide reliable assessment of the condition of hydraulic fluids are the key feature of continuous fluid monitoring. Sensors and measurement technology from ARGO-HYTOS precisely target this range of tasks. Our fluid monitoring products comprise equipment and system solutions to enable online monitoring during continuous operation as well as analysis of bottled samples under laboratory conditions.

- portable oil diagnostic system
- stationary and portable particle monitor
- oil condition sensors
- software to evaluate data and analyze trends



Portable Oil Diagnostic System

Sensitivity [μm (c)]	4
ISO-MTD-sizes [μm (c)]	4; 4.6; 6; 9.8; 14; 21.2; 38; 68
Classification	ISO 4406 NAS 1638 MIL-STD-1246C NAVAIR 01-1A-17 SAE AS 4059
Pressure [bar]	0.5...420
Temperature [$^{\circ}\text{C}$]	Pressure fluids: 0...+90 Ambient: +5...+50
Operating modes	Bottle sample analysis, online-analysis
Data transmission	RS 232



Stationary Particle Monitor

Sensitivity [μm (c)]	4
ISO-MTD-sizes [μm (c)]	4; 6; 14; 21
Classification	ISO 4406 SAE AS 4059
Pressure [bar]	up to 420
Temperature [$^{\circ}\text{C}$]	Pressure fluids: 10...+80 Ambient: -20...+60
Data transmission	RS 232, CAN open, 4...20 mA, digital alarm output, digital input to start and stop readings



Portable Particle Monitor

Size channels [μm (c)]	4; 6; 14; 21
Classification	ISO 4406
Operating pressure [bar]	10...350
Temperature range [$^{\circ}\text{C}$]	Pressure fluid: 0...+80 Ambient: +5...+60
Data transmission	RS 232



Oil Condition Sensors

Operating pressure [bar]	0...10
Temperature range [$^{\circ}\text{C}$]	-20...100
Data transmission	RS 232, CAN open, 4...20 mA
Performance feature	automatic evaluation of oil condition
Measuring data	Relative and absolute humidity, temperature, relative permittivity, conductivity, viscosity, oil level

Screw-in sensor for continuous online determination of the oil condition, e.g. humidity of the oil, oil aging, oil dilution, water ingress and level measuring.

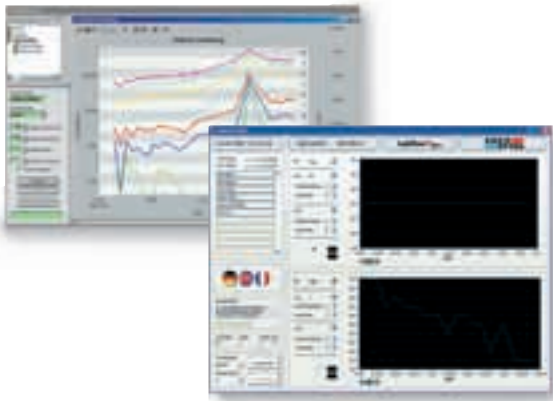


Display and Data Logger

Performance Features:

Internal memory, SD-card memory, USB connection, optionally ethernet connection and web server, switching output, graphic display, real-time clock.

Display unit with data memory for connection of different oil condition sensors.



Software for Portable Oil Diagnostic System

For complete control of the Portable Oil Diagnostic System from the control window of the software. Structure of a data bank according to any criteria. Issue of certificates. Report of chronological measuring processes.

Software for oil condition sensors and Stationary Particle Monitor

PC-visualisation and recording software for condition sensors and particle monitor to record, store and visualize incoming data.



Condition Monitoring Service Team

Services for individual condition monitoring systems.

Consulting, installation service, calibration, repairs, demo units and oil analysis.



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