

# Product Range

## Truck pumps - Fixed displacement

### F1 F1 plus



- Pressures up to 400 bar
- High power capability
- Splined shaft DIN 5462
- Mounting flange ISO 7653-1985
- Very low weight
- High self-priming speed
- Easy to install
- Same mounting face and shaft dimensions on all F1 and T1 sizes
- Easy to service

Frame size F1	F1-20	F1-30	F1-40	F1-60	F1-80	F1-110	T1-50
Displacement [cm <sup>3</sup> /rev]	19.0	28.1	38.7	58.2	78.2	110.1	50.0
Max. operating pressure [bar]	350	350	350	350	350	350	200
Self-priming speed [rpm]	2300	2000	1800	1500	1300	1300	1600
Max. input power continuously [kW]	28	36	46	56	66	88	26
Weight [kg]	6.7	6.9	9.5	10	14	18	7.2

Frame size F1 Plus	F1-25	F1-41	F1-51	F1-61	F1-81	F1-101
Displacement [cm <sup>3</sup> /rev]	24	38	49	61	80	98
Max. operating pressure [bar]	400	400	400	400	400	400
Self-priming speed [rpm]	2600	2400	2200	2200	2000	1800
Max. input power continuously [kW]	29	43	50	63	75	82
Weight [kg]	8.5	8.5	8.5	8.5	12.5	12.5

## Truck pumps - Fixed displacement – Twin-flow

### F2



- Pressures up to 350 bar
- High power capability
- Twin-flow version available
- Very low weight
- High self-priming speed
- Easy to install
- Same mounting face and shaft dimensions on all F2 sizes
- Easy to service

Frame size F2	F2-53/53	F2-70/35
Displacement [cm <sup>3</sup> /rev]	54/52	69/36
Max. operating pressure [bar]	350	350
Max. self-priming speed [rpm]	1650	1650
Max. input power peak [kW]	100	100
Max. input power continuously [kW]	75	75
Weight [kg]	19	19

The F2 pumps are not bi-directional

# Product Range

## Motors/Pumps - Fixed displacement

### F11



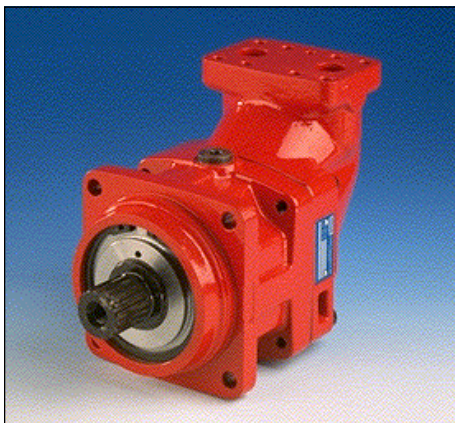
- Very high motor operating speeds
- Pressures up to 420 bar
- Efficient (low losses)
- Accept high external shaft loads
- High resistance to vibrations and temperature shocks
- Proven reliability
- Easy to service

Frame size <b>F11</b>	<b>-5</b>	<b>-10</b>	<b>-19</b>	<b>-150</b>	<b>-250</b>
Displacement [cm <sup>3</sup> /rev]	4.88	9.84	19.0	150	242
Max. operating pressure [bar]	420	420	420	420	420
Max. operating speed* [rpm]	12000	10000	7500	3000	2700
Max. output power* [kW]	18	28	45	200	300
Weight [kg]	5	7.5	11	70	77

\* Working as motor

## Motors/Pumps - Fixed displacement

### F12



- Very high motor operating speeds
- Pressures up to 480 bar
- High starting torque
- Very high power capability
- High overall efficiency
- Small envelope size
- Motor and pump versions available
- Accessory valves available
- ISO, SAE and cartridge versions available
- Proven reliability
- Easy to service

Frame size <b>F12</b>	<b>-30</b>	<b>-40</b>	<b>-60</b>	<b>-80</b>	<b>-110</b>
Displacement [cm <sup>3</sup> /rev]	30.0	40.0	59.8	80.4	110.1
Max. operating pressure [bar]	480	480	480	480	480
Max. operating speed* [rpm]	7100	6400	5600	5200	4700
Max. output power* [kW]	110	130	175	220	270
Weight [kg]	12	16.5	21	26	36

\*Working as motor

# Product Range

## Pumps - Variable displacement

### PAVC



- High strength cast iron housing
- Built in supercharger
- High sideload capacity available
- Sealed shaft bearing
- Two piece housing
- Cartridge controls
- Airbleed valve
- Thru-shaft option (PAVC100)
- Optional port location
- Full pressure rating on water glycol fluids
- Control drain may be filtered and/or cooled

Frame size <b>PAVC</b>	<b>-33</b>	<b>-38</b>	<b>-65</b>	<b>-100</b>
Displacement [cm <sup>3</sup> /rev]	33	38	65	100
Max. operating pressure [bar]	210	210	210	210
Max. operating speed [rpm]	3000	3000	3000	2600

## Pumps - Variable displacement

### PVP



- High strength cast iron housing
- Modular controls
- Fast response times
- Thru-shaft option
- Optional port location
- Low weight
- 9 and 11 piston design
- English and metric mounting features
- Low control pressures

Frame size <b>PVP</b>	<b>-16</b>	<b>-23</b>	<b>-33</b>	<b>-41</b>	<b>-48</b>	<b>-60</b>	<b>-76</b>	<b>-100</b>	<b>-140</b>
Displacement [cm <sup>3</sup> /rev]	16.4	23	33	41	48	60	76	100	140
Max. operating pressure [bar]	250	250	250	250	250	250	250	250	250
Max. operating speed [rpm]	3000	3000	3000	2800	2400	2200	2200	1800	1800

# Product Range

## Remote Control System

### ICM4



Joysticks for the EHC35 system

### ICL3



Large levers for the EHC35 system

### IPS302



Electronic regulator units for the EHC35 system

### EHC35 Electro-hydraulic control systems

The EHC35 is a multi axis, electro-hydraulic, *analog* control system for the proportional remote control of directional control valves, pumps, motors, etc.

A wide range of levers are available for the EHC35 system.

The control systems are available for 12 or 24 V DC. All units comply with the EMC Directive (89/336/EEC).

### ICS416 and ICT416

The ICS4 and ICT4 single axis lever units are complete electronic control systems with proportional *analog* output signals. These are intended for the remote control of double acting functions in components such as directional control valves.

The control systems are available for 12 or 24 V DC. All units comply with the EMC Directive (89/336/EEC).

### ICM4/ICL4 with 0-5 volt output

ICM4 and ICL4 can be equipped with a 0 to 5 volt interface. This makes it possible to replace many potentiometer based levers. The ICL4 lever can be equipped with up to 5 buttons.

### Features

- Individually adjustable control characteristics, start and final values
- Adjustable ramp function for control of speed changes
- Friction brake for retention in any position (ICS4)
- Handle with centre-position detent (ICS4)

EHC35  
(Analog)

ICS4/ICT4  
(Analog)

X

X

X

X

X

X

# Product Range

## Remote Control System



**IQAN-DG**



**IQAN-MDM**



**IQAN-MG**



**IQAN-XP**



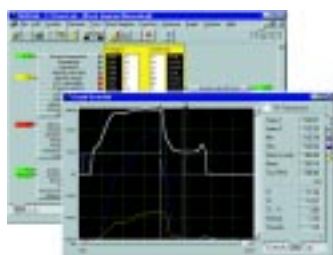
**IQAN-XS**



**IQAN-LL**



**IQAN-LM**



**IQANtalk/IQANdevelop**

### IQAN System description

IQAN® is a digital control system optimized for the mobile machine market. IQAN offers the customer a complete function solution for their machines in simple and complex applications as well. IQAN has no input or output limits. By using CAN-bus communication between different control and expansion units, a very simple and functional installation is achieved.

IQAN controls and supervises all functions in a vehicle: diesel engine, hydrostatic or hydrodynamic transmission, gearbox, brakes, control and work hydraulics and total machine supervision. For further information, see our IQAN control brochures.

### IQAN-DG

IQAN-DG enables you to monitor different machine parameters/sensors like speed, pressure and temperature. The operator can have his individual parameter setup stored and easily reached. Alarm situations are indicated on the display and troubleshooting is easy through menus. This significantly reduces down time and life cycle cost.

### IQAN-MDM

IQAN-MDM is a display unit with a master function. It is being used in our IQAN Xpress and IQAN Xplore system. The Xpress system consist of one MDM, one XP and two IQAN levers. It has a standardized software which suits most simple applications and as a replacement for EHC35 and EHC4000 systems. From the display the operator can adjust currents and ramps and store them as his own settings. Up to four different operator settings is possible. Also alarms or other information from the system is presented on the display.

The Xplore system consist of the same hardware but with help of IQANdevelop, the system can be expanded with further expansion units and levers. This enables the customer to build his own functions according to his needs and application.

### IQAN-MG

IQAN-MG is the central unit in the IQAN system. This master unit features analog input, frequency input, digital input and output, current output and one servo motor output covering the basic needs in many applications.

### IQAN-XP

IQAN-XP is a power expansion unit with analog and frequency inputs and digital and current outputs.

### IQAN-XS

IQAN-XS is a signal expansion unit with digital and analog inputs and digital outputs.

### IQAN-LL

IQAN-LL includes proportional inputs for two axis and up to four external switches/buttons can be connected.

### IQAN-LM

IQAN-LM includes proportional inputs for two or three axis and up to four external switches/buttons can be connected.

### IQANtalk

IQANtalk is the interface to the IQAN system. A new generation, PC-based Windows application for configuration, measuring and troubleshooting. Flexible parameter handling makes it possible to calibrate and adjust channels and function parameters.

### IQANdevelop

IQANdevelop is a PC-based tool which makes it possible to build functions in an IQAN system. These functions could be for instance: overload protection, wheel steering, power regulation, reduce output at low/high temperatures or high pressure. Virtually all imaginable functions can now be realized by the customer himself with this powerful tool.

# Product Range

## Directional Control Valves

**L90LS**



### For systems with variable pumps (load-sensing)

Our load-sensing valves (LS) have a special load-signal system, in which the oil is able to circulate in the load-signal line without any oil being drawn from the service port. Benefits include a quicker reaction from the pump, especially when it is cold.

Our LS valves can be obtained with a combination of pressure compensator and pressure-compensated spools for hydraulic and electro-hydraulic proportional control. This gives very good control characteristics in both lifting and lowering movements. The valves can also be fitted with feed reduction.

**K220LS**



All valves can be obtained with a large number of integrated optional components such as:

- a system pressure relief valve
- individually adjusted port-relief and anti-cavitation valves
- separate replenishing valves with counterpressure valve
- application-adapted spools
- a large selection of spool actuators
- force feedback feature
- feeding reducers

**HV08**



**M400LS**



**VPL:** See page 12

System type	Valve	Section flow [l/min]	Pressure [bar]	Operation				Service port connections
				Manual	Pneu.	Hydraul.	Electro-hydraul.	
LS	<b>VPL</b>	-90	-350	<b>X</b>		<b>X</b>	<b>X</b>	G1/2, 7/8"-14UNF
LS	<b>L90LS</b>	-135	-320	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<input type="checkbox"/> G1/2, 7/8"-14UNF
LS	<b>K170LS</b>	-210	-320	<b>X*</b>		<b>X</b>	<b>X</b>	<input type="checkbox"/> G3/4 1 1/16"-12UN
LS	<b>K220LS</b>	-250	-320			<b>X</b>	<b>X</b>	<input type="checkbox"/> SAE 1***
LS	<b>HV08</b>	-300	-320	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<input type="checkbox"/> SAE 1***
LS	<b>M400LS</b>	-450	-275			<b>X</b>	<b>X</b>	<input type="checkbox"/> SAE 1****

\* Only in combination with hydraulic or electro-hydraulic spool actuator

\*\* Flange screws with metric or UNC threads

\*\*\* Flange screws with metric threads

# Product Range

## Auxiliary Valves



*Auxiliary valves and cartridge valves with good characteristics and short response times.*

### Pressure-relief valves

Directly controlled pressure-relief valves both with and without anti-cavitation function. The valves have good pressure characteristics together with very short reaction times. They are reliable, have low leakage and are not sensitive to dirt. The valve is of cartridge type. Mounting block available for single function.

### Sequence valves

Three-way sequence valves that measure the incoming pump pressure and switch over instantaneously. The valves are available in normally-open and normally-closed versions, and are used for signal processing. The pressure switch point can be pilot operated.

### Reducer valves

Pressure-reducing valves that keep the secondary pressure constant, regardless of variations on the primary side. Uses include the reduction of main-circuit pressure to a suitable pilot pressure.

### Shuttle valves

Shuttle valves in pilot circuits, used to select a signal from two alternative sources. High weight poppet gives fast reacting in any changes.

Valve type	Max. working pressure [bar]	Pressure setting range [bar]	Recommended max. flow capacity [l/min]
Pressure-relief valves	450	25-450	0-280
Sequence valves	250	4-250	0-25
Reducer valves	250	4-150	0-30
Shuttle valves	250		0-25

## Cartridge Valves



*Cartridge valves with good characteristics and short response times.*

### Parker threaded cartridge valves

Robust design for safe functions and long life. Complete program with numerous models and functions:

- Pressure control valves
- Volume control valves
- Load holding valves
- Manual valves
- Hand pump
- Solenoid valves
- Solenoid directional control valves
- Proportional solenoid control valves

- Only a small set of tools required thanks to small amount of bore hole configurations.
- For single functions mounting blocks available.
- Pressure range up to 350 bar.