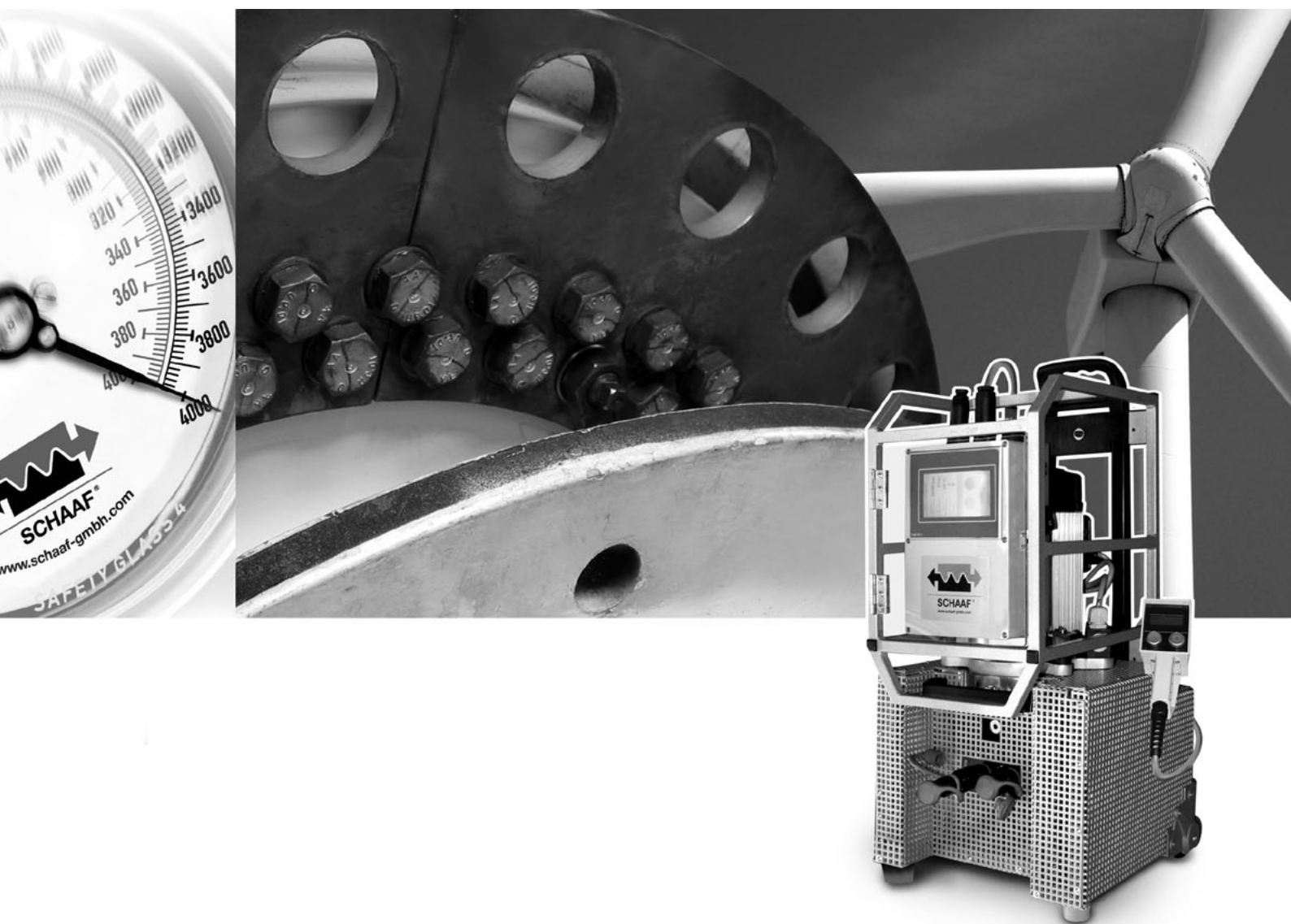




# HDE 4000-DM

**Electrohydraulic high-pressure unit  
without pressure intensifier in modular design**



**HDE 4000-D / DM –  
4000 bar direct power  
in smallest space.**



## Electrohydraulic High-pressure unit HDE 4000-DM

### Required type code

Please only check one value per box.

### Max. pump pressure (pmax)

100	1000 bar / 100 MPa (14.500psi)
160	1600 bar / 160 MPa (23.200psi)
250	2500 bar / 250 MPa (36.250psi)
300	3000 bar / 300 MPa (43.500psi)
400	4000 bar / 400 MPa (58.000psi)
----	Specify different pressures in bar

### Output ratio High-Pressure Pump

075	Output ca. 0,03 – 0,3 Litres/min. (pmax 4000 bar)
100	Output ca. 0,10 – 0,5 Litres/min. (pmax 4000 bar)
125	Output ca. 0,15 – 0,7 Litres/min. (pmax 4000 bar)
150	Output ca. 0,18 – 0,8 Litres/min. (pmax 4000 bar)
185	Output ca. 0,33 – 0,9 Litres/min. (pmax 3000 bar)

### Motor size

107	Drive motor 0.75 kW, 1 phase 230V 50Hz
111	Drive motor 1.1 kW, 1 phase 230V 50Hz
115	Drive motor 1.5 kW, 1 phase 230V 50Hz (Standard design)
120	Drive motor 2.0 kW, 1 phase 230V 50Hz
122	Drive motor 2.2 kW, 1 phase 230V 50Hz
315	Drive motor 1.5 kW, 3 phase 400V 50Hz
322	Drive motor 2.2 kW, 3 phase 400V 50Hz
330	Drive motor 3.0 kW, 3 phase 400V 50Hz

### Oil tank size

01	Filling and effective capacities: ca. 2 / 1 Litre
04	Filling and effective capacities: ca. 4.5 / 3.5 Litre
10	Filling and effective capacities: ca. 11 / 10 Litre
XX	Special oil tank according to customer's specification

### High-Pressure connections

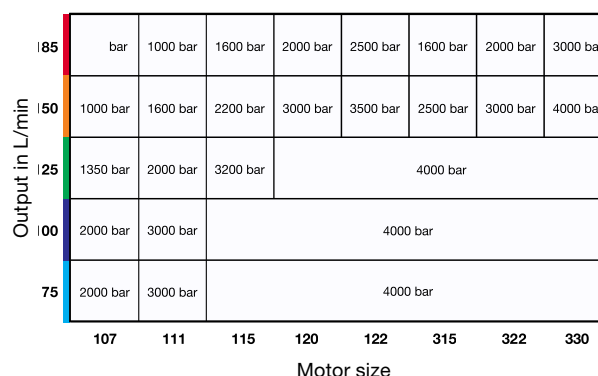
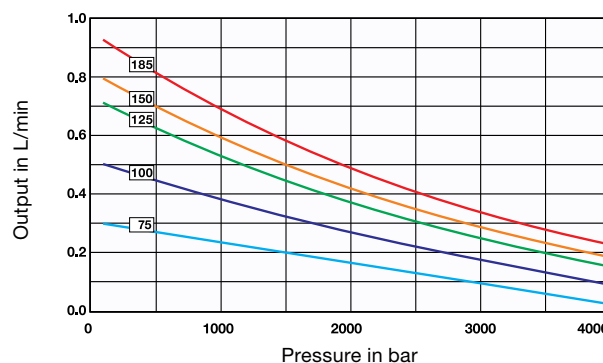
01X	1 High-Pressure connection
02X	2 High-Pressure connections
XXX	Special manifold according to customer's specification

### High-Pressure connection coupling

C6 / ... pcs	Coupling Socket CVK16 (pmax 1600 bar)
KA / ... pcs	Adapter M14 x 1,5 AG 60° DK (Screwed connection for high pressure hose, pmax 1600 bar)
C2 / ... pcs	Coupling Socket CVK25-2 (pmax 2500 bar)
MA / ... pcs	Adapter G 1/4" AG 60° DK (Screwed connection for high pressure hose, pmax 3000 bar)
S4 / ... pcs	Coupling Socket SVK40 (pmax 4000 bar)
XXX / ... pcs	Special connections according to customer's specification

### Language of pump labelling, software and documentation

DE	Monolingual - German
GB	Monolingual - English
----	Other languages (enter ISO code)





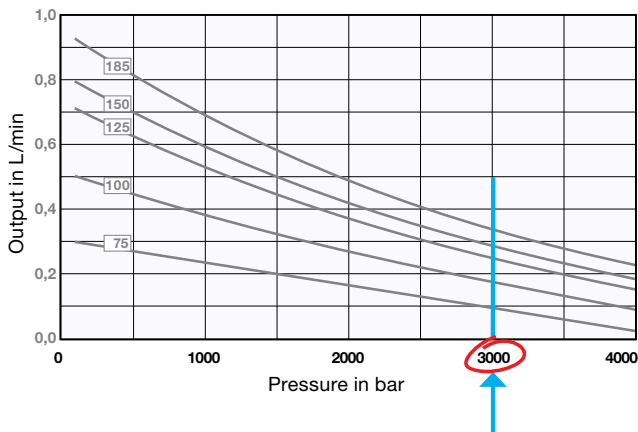
## Electrohydraulic High-pressure unit HDE 4000-DM

### Example of motor selection

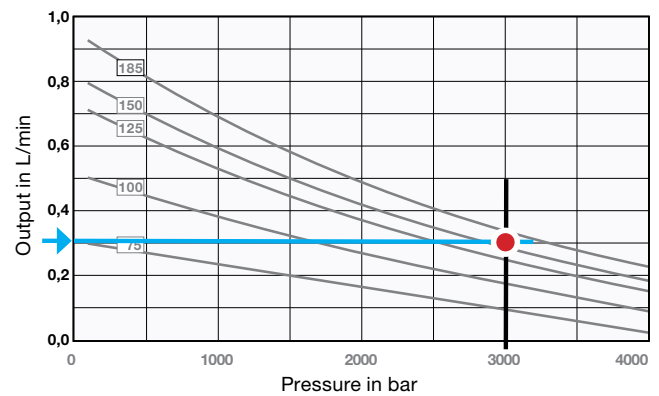
The HDE 4000-DM has an air-cooled motor. So the unit can be operated at the specified performance limits for short duration. If longer durations are required, or if the downtime between pressure applications is very short in duration, then the motor should be selected one size larger. For severe applications or operation in hot conditions an oil cooler unit is recommended.

### Determine the performance requirement in 4 steps

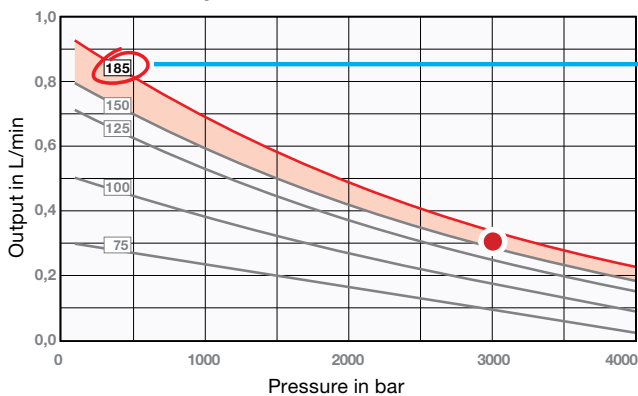
#### 1. Determine maximum pressure (bar)



#### 2. Determine maximum pumping capacity in L/min



#### 3. Determine output ratio



#### 4. Select motor size

185	700 bar	1000 bar	1600 bar	2000 bar	2500 bar	1600 bar	2000 bar	3000 bar
150	1000 bar	1600 bar	2200 bar	3000 bar	3500 bar	2500 bar	3000 bar	4000 bar
125	1350 bar	2000 bar	3000 bar	4000 bar				
100	2000 bar	3000 bar	4000 bar					
75	2000 bar	3000 bar	4000 bar					
	107	111	115	120	122	315	322	330

### Special fabrications

Special designs are optional. Please specify your requirements



## Electrohydraulic High-pressure unit HDE 4000-DM

### Optional type code

A variant can be selected in each block. If no selection is made then the standard design will be supplied as described.

### Electronic pressure monitoring

The standard design is an electronic pressure transducer, 0 - 4000 bar. The actual pressure is indicated on the (remote) controller and is further processed by the control system.

DM2	A second identical pressure transducer with reciprocal monitoring (redundant system). The two pressure transducers monitor each other. Any deviation is automatically detected without delay. This means that the intervals between calibration of the pressure transducers can be lengthened or eliminated entirely. For critical applications maximum operational safety is achieved. Requires type T controller.
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### Oil level monitoring

The standard design has optical monitoring with a transparent oil sight glass.

S	Optical monitoring with additional electrical shutdown when the oil level falls to minimum. Requires type T controller.
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### Oil temperature monitoring

The standard design does not include oil temperature monitoring.

O	Continuous oil temperature monitoring at the pump intake with indication on the pump display. Requires type T controller.
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### Motor temperature monitoring

The standard design provides automatic shutdown of the pump if the maximum motor winding temperature is exceeded.

P	Continuous monitoring of motor winding temperature with indication on the pump display. Requires type T controller.
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### Oil cooling

The standard design does not include a cooler unit, nor provision for the connection of a cooler.

V	Quick-coupling system for coupling of a separate cooler unit (the oil cooler unit can then be post ordered separately if required).
K	Separate, removable oil cooler unit with quick-connector coupling system to allow connection when necessary.

### Oil filter monitoring

The standard design does not include oil filter monitoring.

K	Continuous monitoring of the pressure upstream of the bypass filter with indication of dirty filter condition on the pump display. Requires type T controller.
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### Supplementary fan for drive motor

The standard design has a fan wheel on the main motor shaft.

P	The drive motor is fitted with a separately driven fan which also provides cooling even when the pump is shut down. Requires type P motor temperature monitoring.
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### Supplementary function module

The supplementary function module provides for more complex hydraulic control using the HDE4000D unit, such as for hydraulic torque wrenches, GripLoc couplings or lifting applications. The function module is simply plugged as necessary into a multiple quick coupling system fitted to the pump. The standard design does not include a quick-coupling system. The use of a supplementary function module strictly requires a type T electronic controller (electronic controller with touch panel).

HS	Separate removable control module for the control of single and double-acting hydraulic torque wrenches up to 700 bar, including quick-connector coupling system for coupling as necessary (requires supplementary software module S or A).
G2	Separate removable control module for manual control of 2k GripLoc couplings up to 3000 bar, including quick-connector coupling system for coupling when necessary.
VX	Only quick-coupling system (hydraulic/electric) for coupling of a separate control module.

## Connector couplings for function module (when a function module is ordered)

Function module for double-acting consumers are always fitted with quick-connector coupling socket and nipple (stroke an return stroke of double-acting hydraulic tools or cylinders). If you have difficulty making your selection you can also specify the type of hydraulic tools or coupling systems to be used (please enter under special requirements).		
C5	Coupling Socket/-nipple C15 (pmax 1000 bar)	
C6	Coupling Socket/-nipple C16 (pmax 1600 bar)	
KA	Adapter M14 x 1,5 AG 60° DK (Screwed connection for High-Pressure hose, pmax 1600 bar)	
G4	Connection Bores G1/4" (pmax 1600 bar, for installation of site couplings)	
C2305	Coupling Socket/-nipple C230-5 (pmax 700 bar)	
14	Connection Bores 1/4 NPT (pmax 700 bar, for installation of site couplings)	
C2307	Coupling Socket/-nipple C230-7 (pmax 700 bar)	
38	Connection Bores 3/8 NPT (pmax 700 bar, for installation of site couplings)	
C2	Coupling Socket CVK25-2 (pmax 2500 bar)	
MA	Adapter G 1/4" AG 60° DK (Screwed connection for High-Pressure hose, pmax 3000 bar)	
S4	Coupling Socket SVK40 (pmax 4000 bar)	
XX	Special connections according to customer's specification (any special design available, please enter under special requirements).	

## Electronic control hardware

The standard design includes a single electronic controller with 2 status lamps and electronic pressure indication.		
T	Electronic controller with 5.7" touch panel and multi-row text display in the remote controller	
H	TSI (Tool Service Indicator) for monitoring of the service lifetime and maintenance indication for the individual components (series with type T electronic controller)	

The following options can only be used in conjunction with the type T electronic controller

## Universal data transfer interfaces (hardware)

UX	1x USB interface including software module for USB data storage and transmission (excluding PC software, interface according to SCHAFF standard)
UE	1x USB and 1x Ethernet interface including software module for data storage (excluding PC software, interface according to SCHAFF standard)

## Elongation measuring device interfaces

Elongation measuring device interfaces (hardware) for detection of elongation with integral elongation measuring device on bolt tensioners (necessary for assembly documentation). The standard design does not include elongation measuring device interfaces.		
X / ... pcs	For elongation measuring device interface type X (please specify type of elongation measuring device on the bolt tensioners)/ quantity of elongation measuring device interface operating simultaneously	

## Software

The standard design of the type T controller includes a basic software package for simple clamping operations (clamping cylinders).		
BM	Software package with mounting documentation for simple tensioning operations (bolt tensioners, requires interface hardware UX or UE and elongation measuring device interfaces)	
MS	STG software package with documentation for oil press fit units (master pump, requires UE interface hardware and elongation measuring device interfaces)	
SS	STG software package with documentation for oil press fit units (slave pump, requires UE interface hardware)	
XX	Special software package (internal sequential number)	

## Supplementary software module

S	Software module for manual control of hydraulic torque wrenches (for controlling the function module for type HS hydraulic torque wrenches)
A	Software module for automatic control of hydraulic torque wrenches

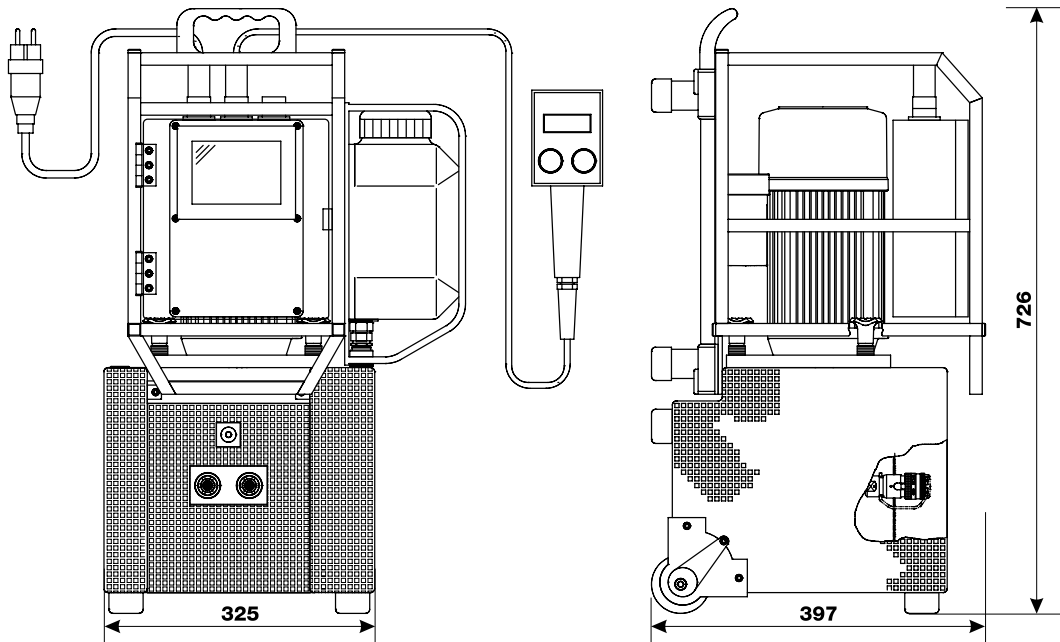




# Electrohydraulic High-pressure unit HDE 4000-DM

## Technical data

Further versions on request



	Standard	Special version
Operating voltage:	One-phase 230 V at 50 Hz	Assortment by performance chart
Nominal output:	230 V / 50 Hz Motor drive power: 1.5 kw	Assortment by performance chart, max. motor drive power: 3.0 kW
Hand control housing (remote control), connection cable:	Length: 5 metres	Length: ____metres, radio remote control
Electricity supply cable with CEE plug:	Length: 5 metres	Length: ____metres
Tank content:	2 litres	If required by customer up to max. 10 litres
Useful volume:	1 litre	Special oil tank or only tank connection possible
Hydraulic oil:	HLP ISO VG 32	Requirement by customer
Oil-level indicator:	Inspection Glass	Visual monitoring with electric deactivation
Oil temperature monitoring:	No monitoring	Permanent gauging of oil temperature in intake area
Motor temperature monitoring:	No monitoring (performance-related)	Measuring of motor winding temperature with automatic deactivation on max. value
Oil cooling:	No cooler (performance-related)	· Separately demountable oil cooler unit · Quick coupling system
Output:	0.05 – 1.0 l/min	Assortment by performance chart
Set-up:	Modular compact unit, decomposable	Requirements by customer
Weight (filled with oil, without distributor, without mounting parts):	Approx. 2 x 20 kg	
Length:	335 mm	
Width:	397 mm	
Height:	726 mm	
Distributor:	According to type key	Distributor of various versions
Pressure gauge:	Electronic pressure monitoring Class 0.15 (standard design)	· Second pressure transducer (redundant system) · Additional mechanical pressure gauge
Packaging:		· Transport box, simple wood · Assembly box with hinged and swivel lock · Version according to customer's wishes

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**SCHAAF has been developing and manufacturing high-pressure hydraulic tools since 1954.**