

<b>Electric barrel pumps</b> - sectional drawing EFP-1 bzw. EFPM-2, function, use .....	08-1-10-02
Barrel pumps <b>EFP-1</b> , (DC) - type 2196 .....	08-1-10-03
Barrel pumps <b>EFPM-2</b> , (230/400 V AC / 3~) - type 2197 .....	08-1-10-05
<b>Hydraulic barrel pumps</b> - sectional drawing barrel pump HFP-3U, function .....	08-1-10-07
Barrel pumps <b>HFP-3U</b> , type 2198 .....	08-1-10-09
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### Overview



EFP-1



EFPM-2



HFP-3U



HFP-3U

(without pump cover  
without follower piston  
without visual level sensor)



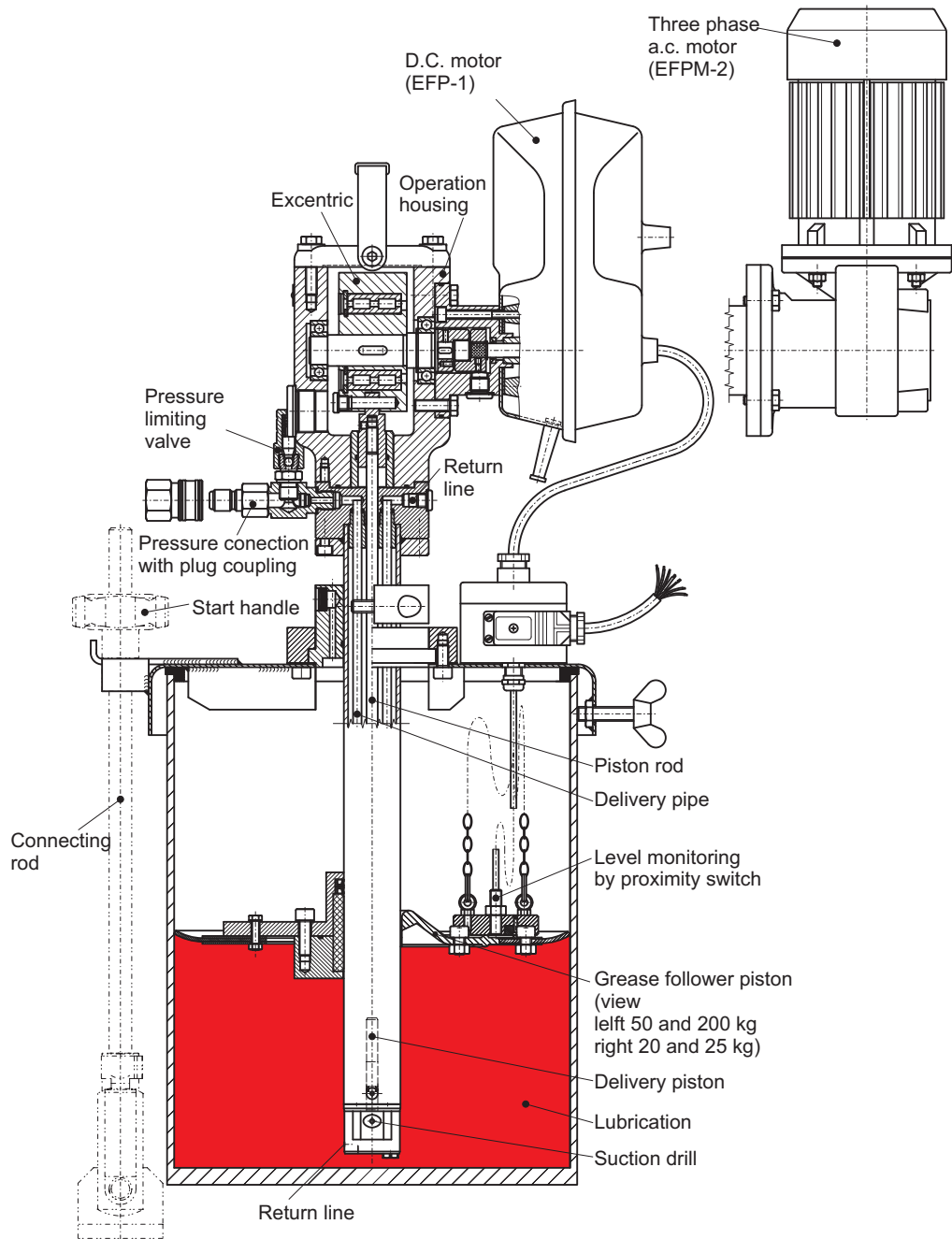
Qmaxx with hoist

Model	Type	Drive	Delivery volume max. (cm <sup>3</sup> / stroke)	Barrel size (kg)	Operating voltage	Drive pressure (bar) / -volume (l/min)	Operating press. max. (bar)
EFP-1	2196	electric	0,33	20 / 25 / 50 / 200	24 V DC	-	280
EFPM-2	2197				115 V AC	-	
HFP-3U	2198	hydraulic	26		230/400 V AC/3~	30 to 50 / max. 5	350*
HFP-3U				without pump cover, without follower piston and without visual level sensor			
Qmaxx	2187	electric	3000 / 9000 (cm <sup>3</sup> /min)	200	400/500 V AC/3~	-	150

\* Pressure limiting valve adjusted to max. 300 bar

#### Function

The electric barrel pump EFP-1 and EFPM-2 are driven by a flanged D.C. motor (EFP-1) or a three phase A.C. motor (EFPM-2). An eccentric, which is installed in the housing, changes the rotation of the motor, into a stroke movement of the piston rod. The delivery piston in the pump is bolted with the piston rod, whereby a suction and pressure stroke is carried out compulsory. The lubricant is delivered through the delivery pipe to the pressure connection which is equipped with a coupling, via the non-return valve which prevents a reprime.



**Caution:** At models for dual line systems, a lubricant return line (R) is opposite the pressure connection. This return line serves to feed back the relief volume into the reservoir, where the quantity flows out below the pump pipe's suction drill.

The stability of the electric barrel pump is guaranteed by three connecting rods with star handles, which in turn have to be connected with the ground. The falling level of the barrel is monitored via a grease level monitoring. A magnetic safed plate with proximity switch is fastened on the follower piston.

When the level in the barrel falls, also the follower pistons falls, whereby the proximity switch is lifted by means of two approx. 3 cm long chains over the suction drill of the grease follower piston. The proximity switch sends a signal for the barrel exchange.

The pressure limiting valve at the pressure connection protects the system from overload and is preadjusted to 280 bar.

#### Use

Used as progressive- or dual-line pumps in machine groups of industrial machinery as well as in medium-sized or big building machines.

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### Technical data

#### Pump

Delivery volume: 0,33 cm<sup>3</sup> / stroke or revolution  
(depending on operating temperature)

Barrel size: 20, 25, 50 and 200 kg  
(dimensions acc. to DIN 6644)

Operating pressure: max. 280 bar

Lubricating medium: greases up to NLGI-cl. 2  
without solid contents

Operating temperature:  
-17 to 70 °C (greases up to NLGI-cl. 2)  
-25 to 70 °C (greases up to NLGI-cl. 1)

No. of outlets: 1

Outlet type: fitting with integrated non-return valve  
including pressure limiting valve and  
high pressure plug coupling

Sense of rotation: optional

Installation position: reservoir vertical as shown

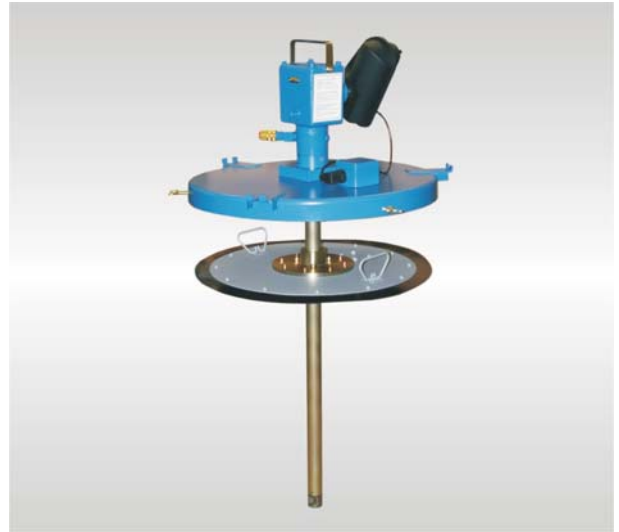
#### Motor

Drive: d.c. geared motor

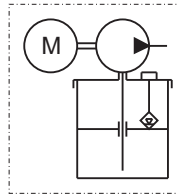
Operating voltage: 24 V DC

Current consumption: max. 5 A

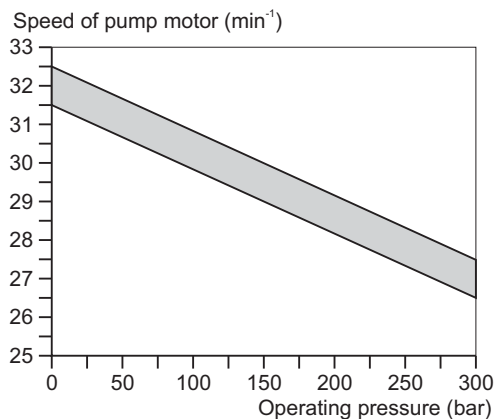
Protection class: IP 54



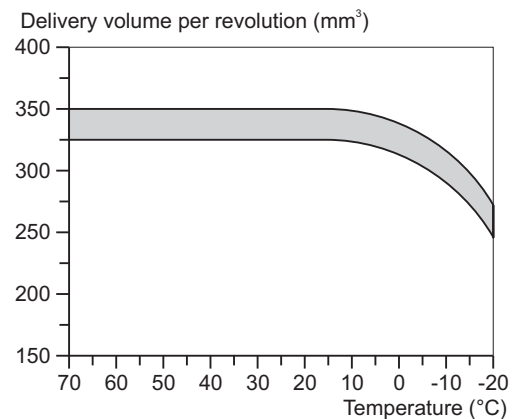
### Symbol



### Speed depending on operating pressure



### Delivery volume depending on temperature



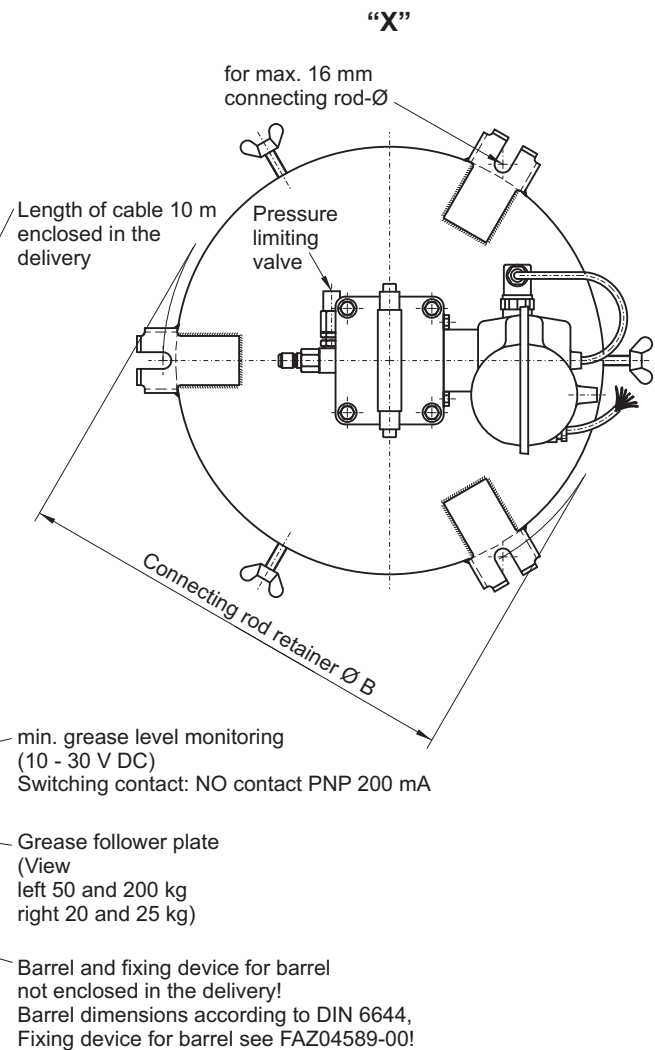
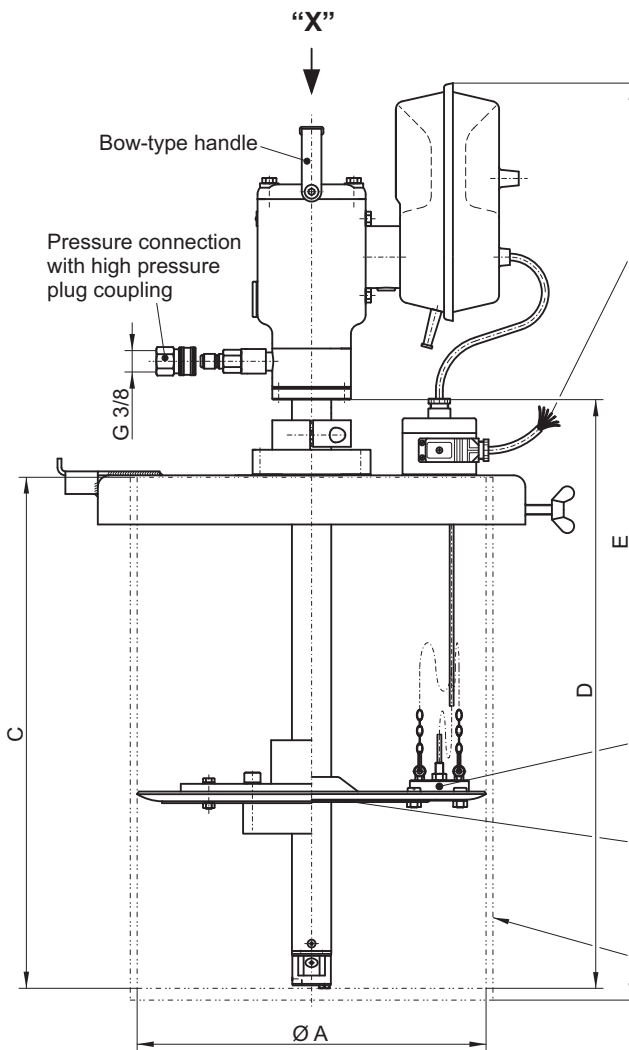
### Order key for type 2196

**2196 01 01 03**

<b>Type number</b>	2196				
Code	2196				
<b>Reservoir cover</b>	with clip		without clip		
Code	01	11			
<b>Motor voltage</b>	24 V DC				
Code	01				
<b>Barrel size (kg)</b>	20	25	50 (ØA* = 354 - 370)	50 (ØA* = 385 - 410)	200
Code	03	04	05	05007	06

\* ØA see drawing  
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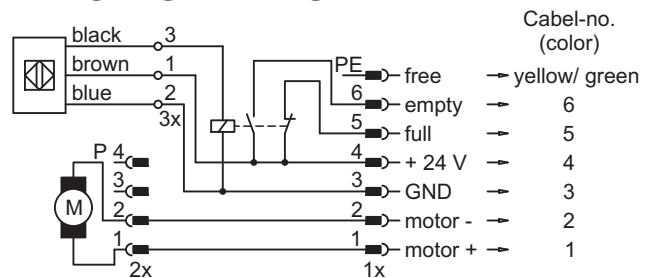


FAZ02342-00

#### Table dimensions

Barrel size (kg)	Ø A (mm)	Ø B (mm)	C max. (mm)	D (mm)	E ca. (mm)
20	265 - 285	345	375	423	800
25	311 - 331	404	475	523	900
50	354 - 370	460	672	720	1040
50	385 - 410	460	672	720	1040
200	550 - 590	666	893	941	1265

#### Wiring diagram filling level



Subject to alterations!

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### Technical data

#### Pump

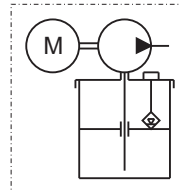
Delivery volume: 0,33 cm<sup>3</sup> / stroke or revolution  
 Barrel size: 20, 25, 50 and 200 kg  
 (dimensions acc. to DIN 6644)  
 Operating pressure: max. 280 bar  
 Lubricating medium: greases up to NLGI-cl. 2  
 without solid contents  
 Operating temperature:  
 -17 to 70 °C (greases up to NLGI-cl. 2)  
 -25 to 70 °C (greases up to NLGI-cl. 1)  
 No. of outlets: 1  
 Outlet type: fitting with integrated non-return valve  
 including pressure limiting valve and  
 high pressure plug coupling  
 Sense of rotation: optional  
 Installation position: reservoir vertical as shown

#### Motor

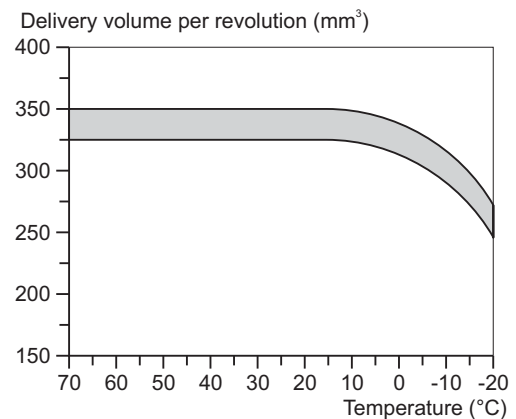
Drive: three phase a.c. motor  
 Power: 0,18 kW (at 230 / 400 V AC)  
 0,15 kW (at 115 V AC)  
 Operating voltage: 230 / 400 V AC, 50 / 60 Hz (standard)  
 115 V AC, 50 Hz  
 Speed: 40 r/min  
 ISO-class: F  
 Protection class: IP 55



### Symbol



### Delivery volume depending on temperature



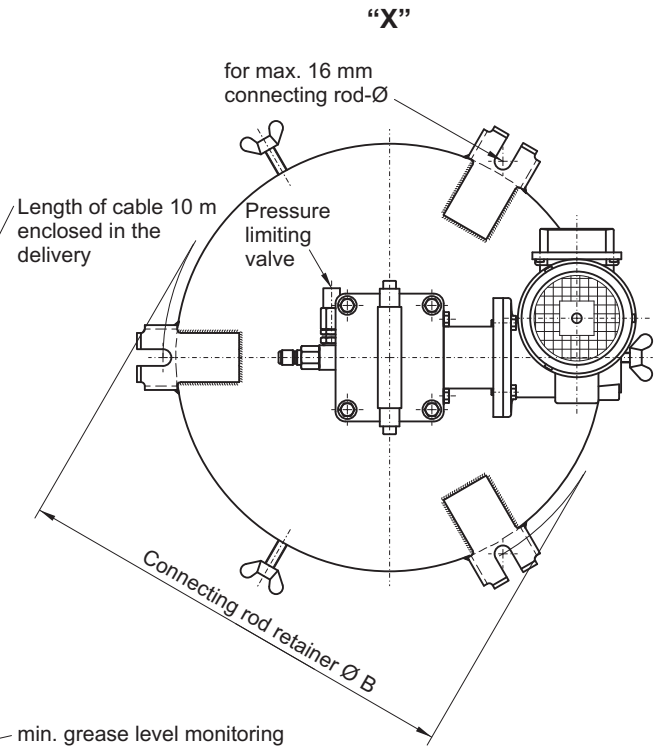
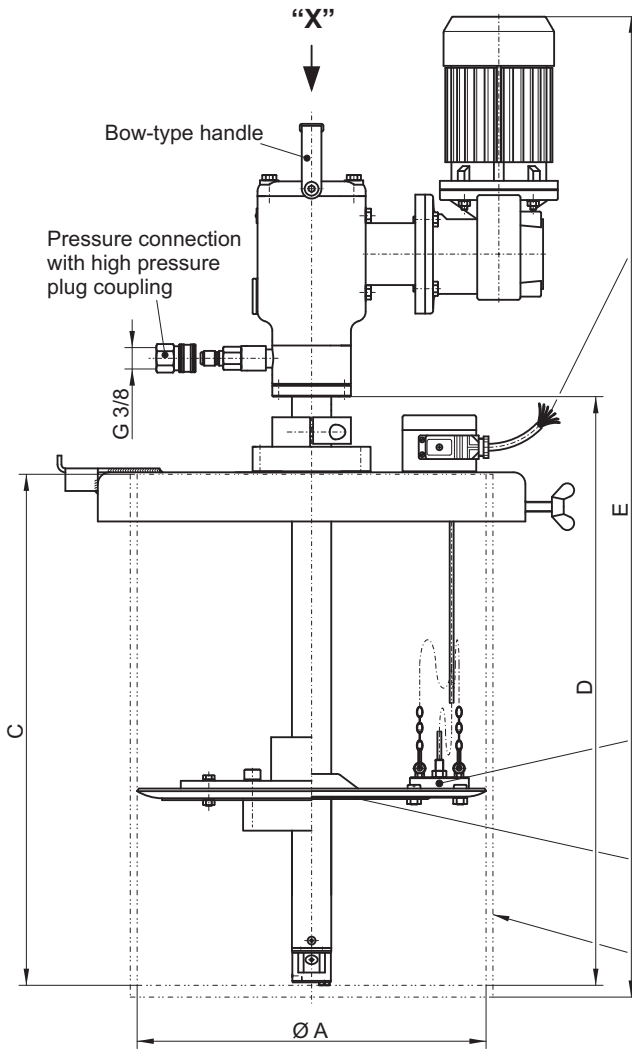
### Order key for type 2197

2197 0 1 01 03 000

<b>Type number</b>	2197			
Code	2197			
<b>Reservoir cover</b>	with clip	without clip		
Code	0	1		
<b>Delivery volume</b>	0,33 cm <sup>3</sup> / stroke			
Code / -buchstabe	1			
<b>Motor voltage</b>	230 / 400 V AC		115 V AC	
Code	01	02		
<b>Barrel size (kg)</b>	20	25	50	200
Code	03	04	05	06
<b>Sonderausführungen</b>	without			
Code	000			

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min. grease level monitoring  
(10 - 30 V DC)  
Switching contact: NO contact PNP 200 mA

Grease follower plate  
(View left 50 and 200 kg right 20 and 25 kg)

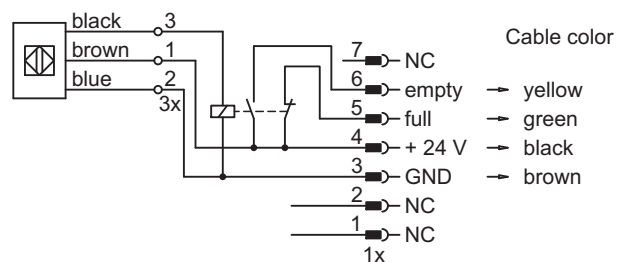
Barrel and fixing device for barrel  
not enclosed in the delivery!  
Barrel dimensions according to DIN 6644,  
Fixing device for barrel see FAZ04589-00!

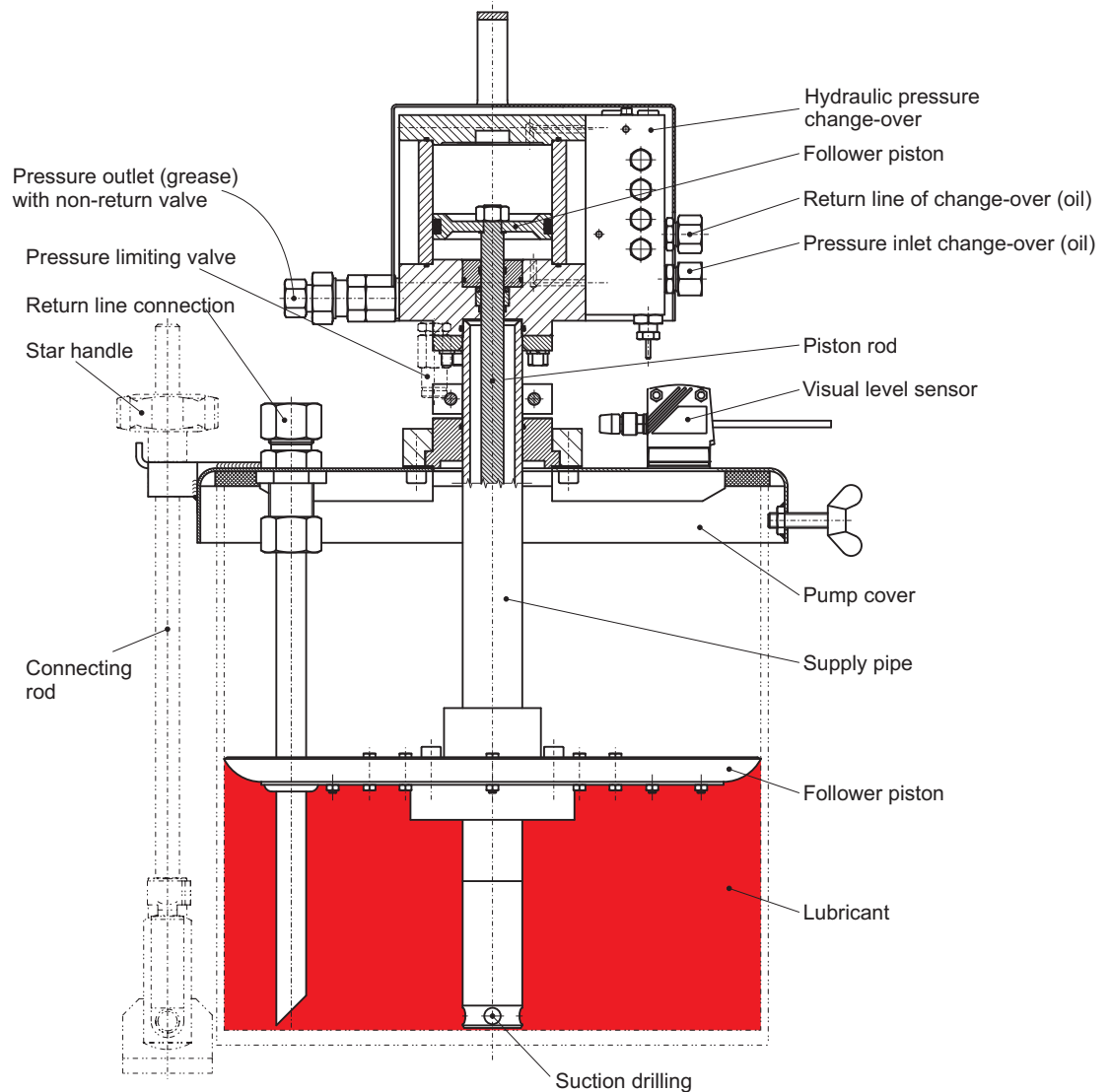
FAZ02366-00

#### Table dimensions

Barrel size (kg)	Ø A (mm)	Ø B (mm)	C max. (mm)	D (mm)	E ca. (mm)
20	265 - 285	345	375	423	840
25	311 - 331	404	475	523	940
50	354 - 370	460	672	720	1137
200	550 - 590	666	893	941	1358

#### Wiring diagram filling level





### Function

#### With hydraulic changeover

The hydraulic barrel pump HFP-3U is driven with hydraulic oil (68 mm<sup>2</sup>/s, max. 5 l/min).

The stroke movements of the piston rod are controlled by the hydraulic changeover (suction and pressure stroke = up and down stroke). The grease is primed via the drilling at the pump pipe. The valve disk with sealing prevents that the primed grease is pressed back into the barrel. The non-return valve prevents a repriming of the lubricant and the grease is supplied through the supply pipe to the pressure connection.

The visual level sensor measures the distance from the cover to the follower piston, hence the level is monitored permanently.

The per default installed pressure limiting valve protects the system from overload and is preadjusted to 300 bar.

The stability of the hydraulic barrel pump is guaranteed by three connecting rods with star handles, which have to be connected with the ground.

### **Function** (continuation)

**Attention:** A return line connection (special model) is installed at the pump cover for types with dual line systems. This return line connection is for the back supply of the relief volume into the barrel where the quantity comes out below the suction drilling of the supply pipe.

### **Use**

Used as progressive- or dual-line pumps in machine groups of industrial machinery as well as in medium-sized or large building machines.



### Technical data

#### Pump

Delivery volume at 20 °C:

26 cm<sup>3</sup> / up and down stroke

Displacement volume: 530 cm<sup>3</sup> / up and down stroke

(An up and down stroke is a completely extended and run-in suction and pressure stroke of the delivery plunger respectively the drive piston).

Barrel size: 20, 25, 50 and 200 kg  
(dimensions acc. to DIN 6644)

Operating pressure: max. 350 bar

Pressure limiting valve adjusted to: max. 300 bar

Lubricating medium: greases up to NLGI-cl. 2  
without solid contents

Operating temperature:  
-10 to 70 °C (greases up to NLGI-cl. 2)

No. of outlets: 1

Outlet type: Ø 12

Installation position: as shown

Ratio: 1:8,6

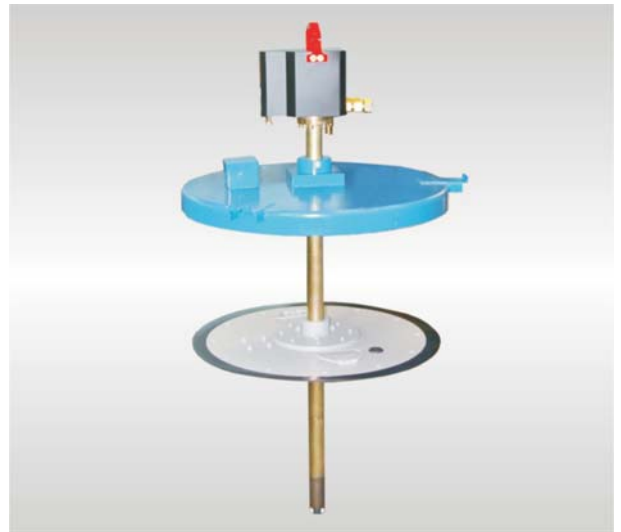
#### Drive

Drive type: hydraulic, max. 5 l/min

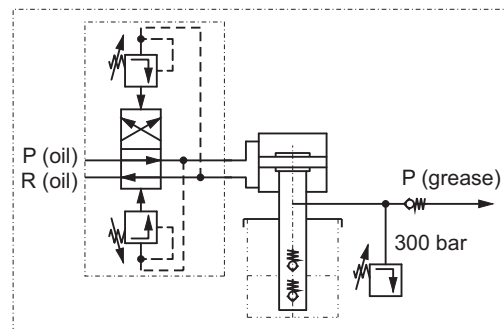
Volume flow of drive lubricant: max. 4,5 l/min

Triggering: via hydraulic change over switch

Oil pressure: adjustable from 30 to 50 bar drive pressures (= difference between inlet pressure and return pressure)



### Symbol



### Order key for type 2198

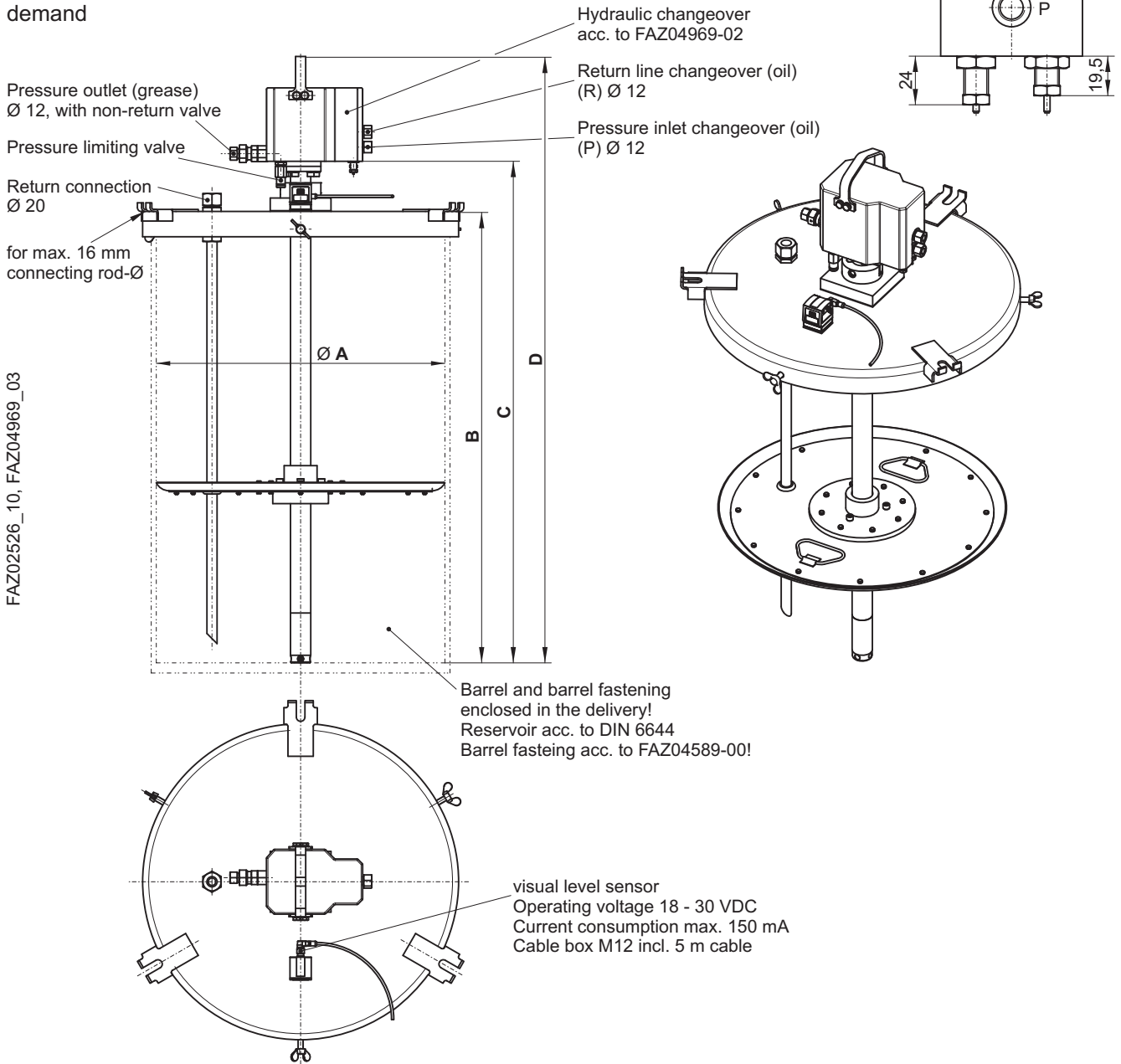
**2198 40 020 01**

<b>Type number</b>	2198				
Code	2198				
<b>Delivery volume</b>	26 cm <sup>3</sup> /stroke				
Code	40				
<b>Barrel size (kg)</b>	<b>20</b>	<b>25</b>	<b>50 (ØA* = 354 - 370)</b>	<b>50 (ØA* = 385 - 410)</b>	<b>200</b>
Code	020	025	050	S50	200
<b>Model</b>	with return line		without return line		
	with changeover		with changeover		
Code	01		02		

\* ØA see drawing

#### with hydraulic changeover

Barrel pump also available without changeover on demand

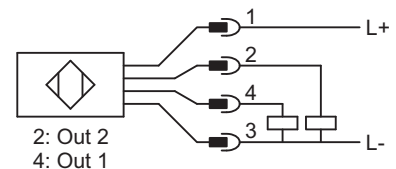
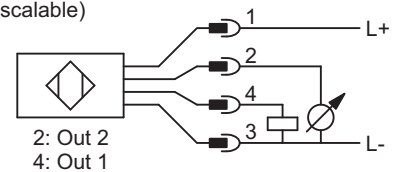
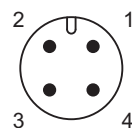


#### Table dimensions

Barrel size (kg)	Ø A (mm)	B max. (mm)	C ±1 (mm)	D ±5 (mm)
20	265 - 285	375	627	680
25	311 - 331	475	827	780
50	354 - 370	672	911	865
50	385 - 410	672	911	865
200	550 - 590	893	999	1195

#### Terminal diagram of filling level

Out 1: NO contact / NC contact programmable  
Out 2: NO contact / NC contact programmable or analogic  
(4 - 20 mA / 0 - 10 V, scalable)



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### Technical data

#### Pump

Delivery volume at 20 °C:

26 cm<sup>3</sup> / up and down stroke

Displacement volume: 530 cm<sup>3</sup> / up and down stroke

(An up and down stroke is a completely extended and run-in suction and pressure stroke of the delivery plunger respectively the drive piston).

Barrel size: 20, 25, 50 and 200 kg  
(dimensions acc. to DIN 6644)

Operating pressure: max. 350 bar

Pressure limiting valve adjusted to: max. 300 bar

Lubricating medium: greases up to NLGI-cl. 2  
without solid contents

Operating temperature:  
-10 to 70 °C (greases up to NLGI-cl. 2)

No. of outlets: 1

Outlet type: Ø 12

Installation position: as shown

Ratio: 1:8,6

#### Drive

Drive type: hydraulic

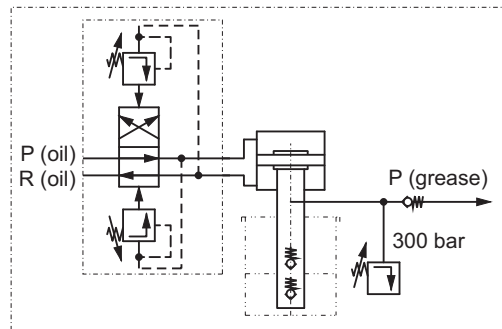
Volume flow of drive lubricant: max. 4,5 l/min

Triggering: via hydraulic change over switch

Oil pressure: adjustable from 30 to 50 bar drive pressures (= difference between inlet pressure and return pressure)



### Symbol



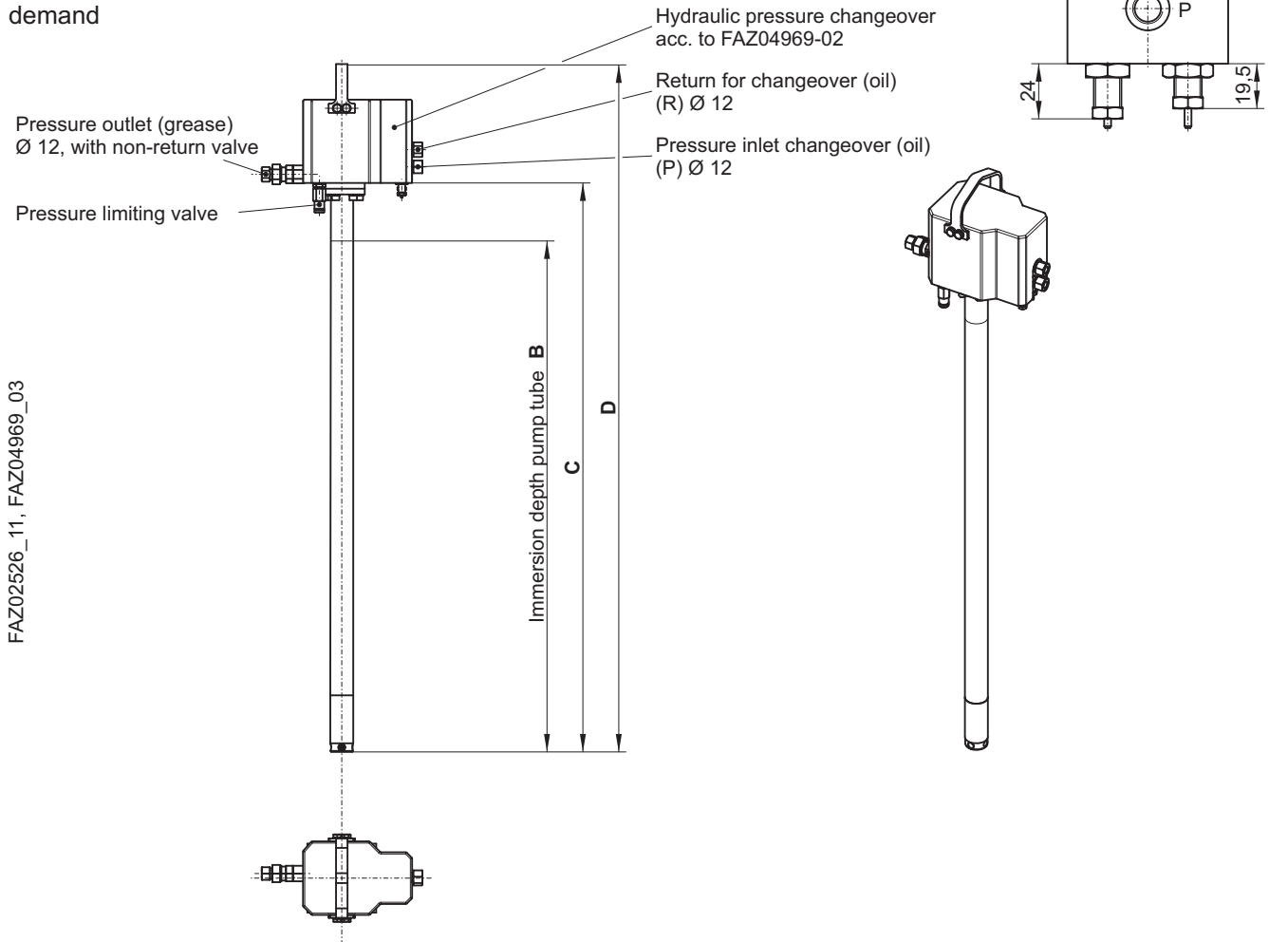
### Order key for type 2198

2198 40 020 08

<b>Type number</b>	2198			
Code	2198			
<b>Delivery volume</b>	26 cm <sup>3</sup> /stroke			
Code	40			
<b>Barrel size (kg)</b>	20	25	50	200
Code	020	025	050	200
<b>Model</b>	without pump cover, without follower piston, without visual level sensor with changeover			
Code	08			

#### with hydraulic changeover

Barrel pump also available without changeover on demand



FAZ02526\_11, FAZ04969\_03

#### Table dimensions

Barrel size (kg)	B max. (mm)	C ±1 (mm)	D ±5 (mm)
20	375	627	680
25	475	827	780
50	672	911	865
200	893	999	1195

### Technical data

#### Pump

Delivery volume at 20 °C: 3000 or 9000 cm<sup>3</sup> / min  
 Barrel size: 200 kg  
 (dimensions acc. to DIN 6644)  
 Operating pressure: max. 150 bar  
 Lubricant: greases up to NLGI-cl. 2  
 without solid contents  
 Operating temperature: -10 to 70 °C  
 (lower temperatures on request)  
 No. of outlets: 1  
 Outlet type: fitting with cutting ring  
 acc. to DIN 2353 / ISO 8434, Ø 28 L  
 Sense of rotation: clockwise  
 Installation position: as shown  
 Weight: 350 kg (including electric hoist)

#### Motor of pump

Power: 2,2 kW  
 Operating voltage: 400 V AC, 50 Hz  
 500 V AC, 50 Hz  
 Speed of rotation: 940 r/min (3000 cm<sup>3</sup> / min)  
 1400 r/min (9000 cm<sup>3</sup> / min)

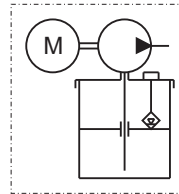
ISO-class: F  
 Protection class: IP 65

#### Motor of hoist

Power: 0,37 kW  
 Operating voltage: 230/400 V AC, 50 Hz  
 Speed of rotation: 1380 r/min  
 ISO-class: F  
 Protection class: IP 55



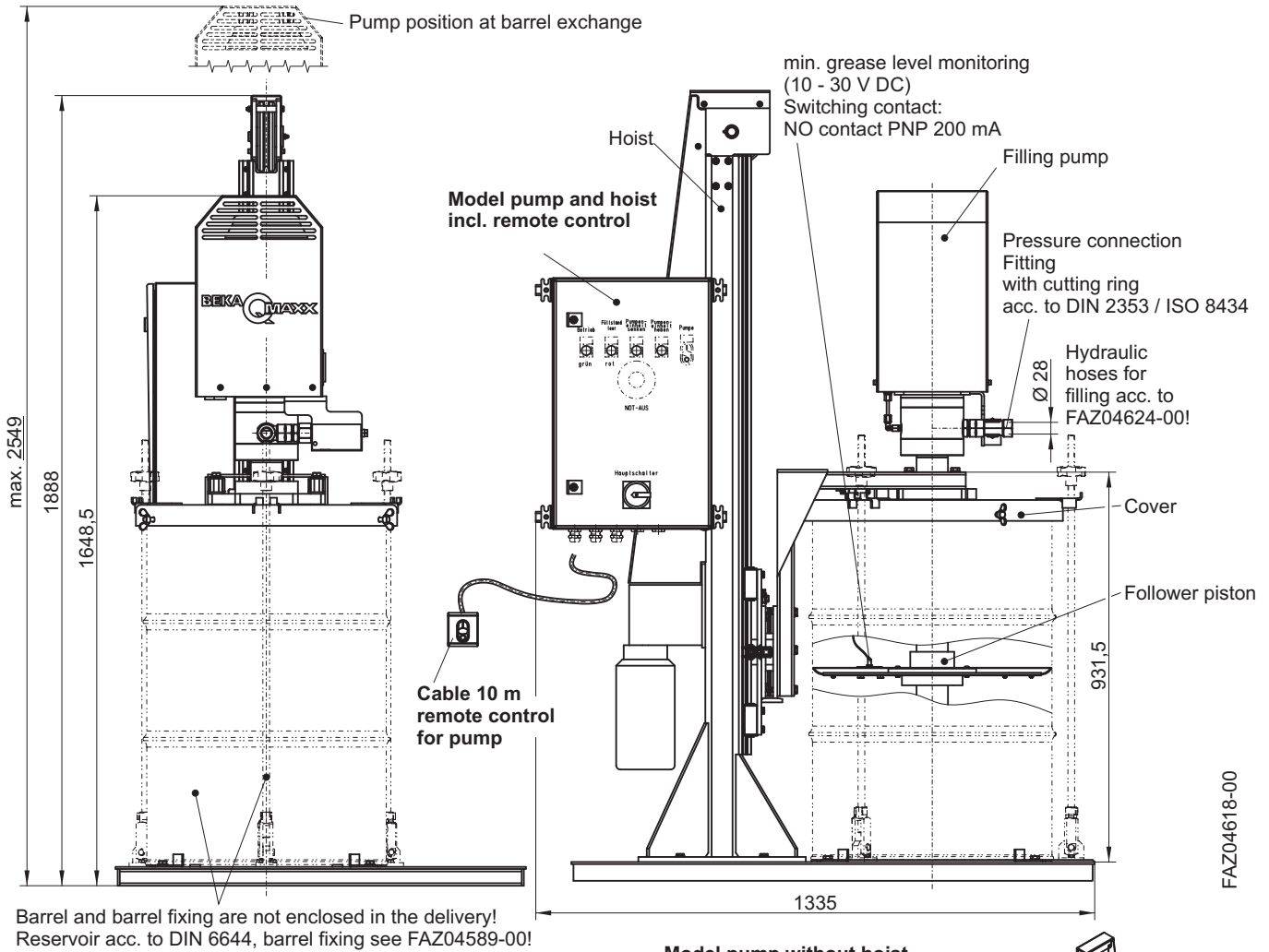
### Symbol



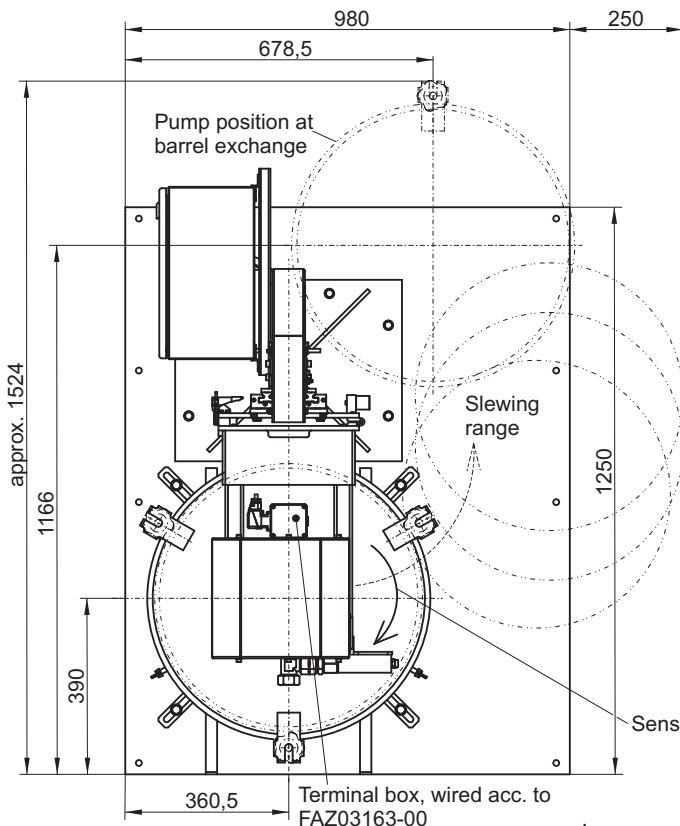
### Order number for type 2187

2187 1 02 01 05 000

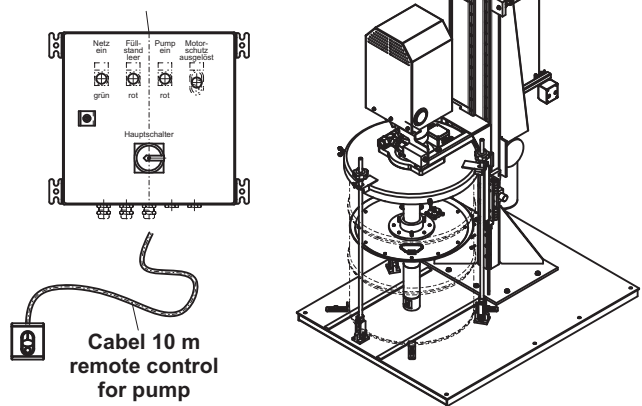
<b>Type number</b>	2187				
Code	2187				
<b>Motor voltage</b>	400 V AC / 50 Hz / 3~		500 V AC / 50 Hz / 3~		
Code	1		2		
<b>Delivery volume</b>	3000 cm <sup>3</sup> / min		9000 cm <sup>3</sup> / min		
Code	01		02		
<b>Electric hoist</b>	without		with		
Code	01		02		
<b>Control unit</b>	without	for pump	for pump incl. remote control	for pump and hoist	for pump and hoist incl. remote control
Code	00	01	02	03	04
<b>Special model</b>	without				
Code	000				



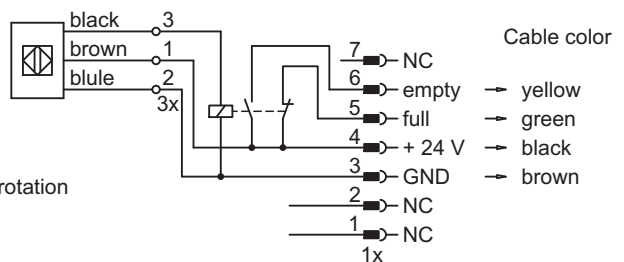
FAZ04618-00



**Model pump without hoist incl. control unit**



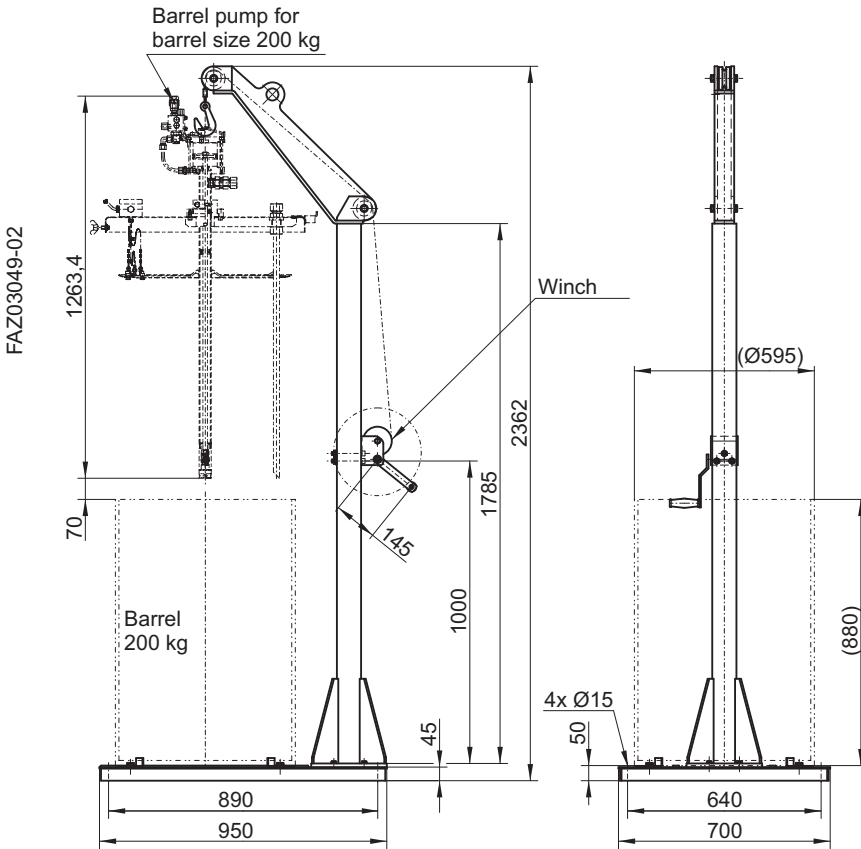
**Wiring diagram filling level**



Subject to alterations!

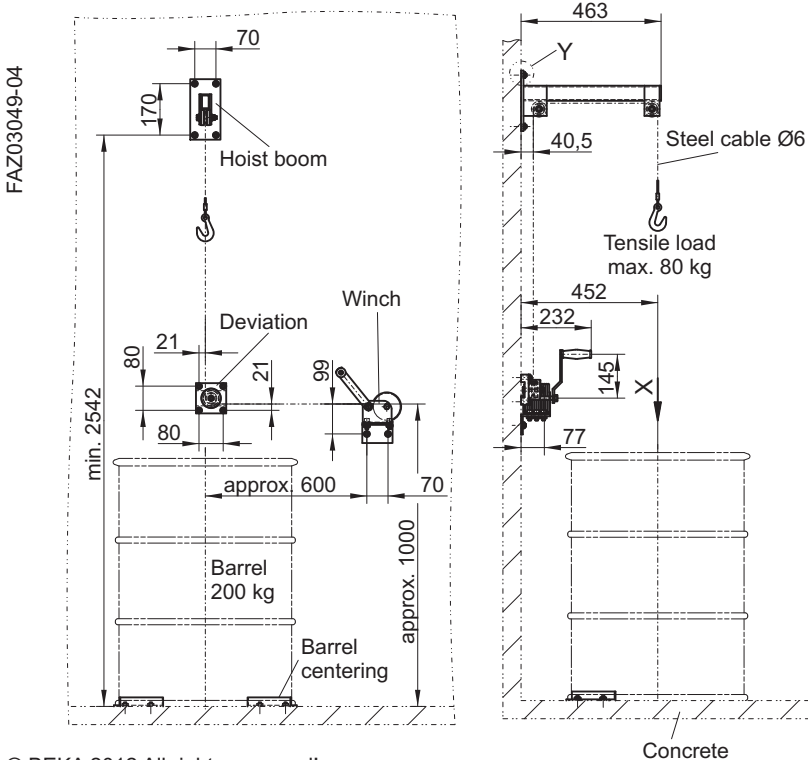
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Order-no: 2191004  
(Installation height below 2,4 m)

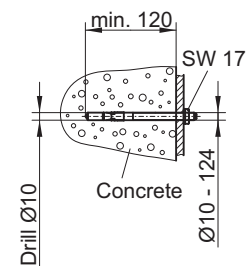


### Hoist for wall-fastening

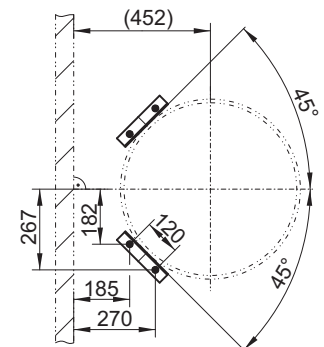
Order-no: 2191006  
(for 200 kg barrel pumps)



Y M1:2  
Assembly anchor bolt



X  
Barrel centering



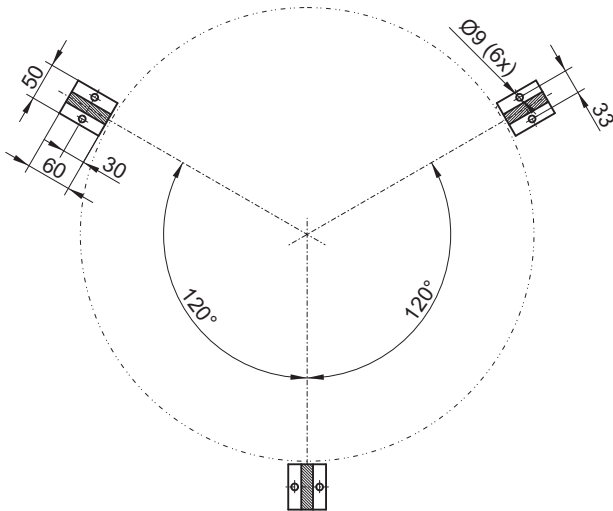
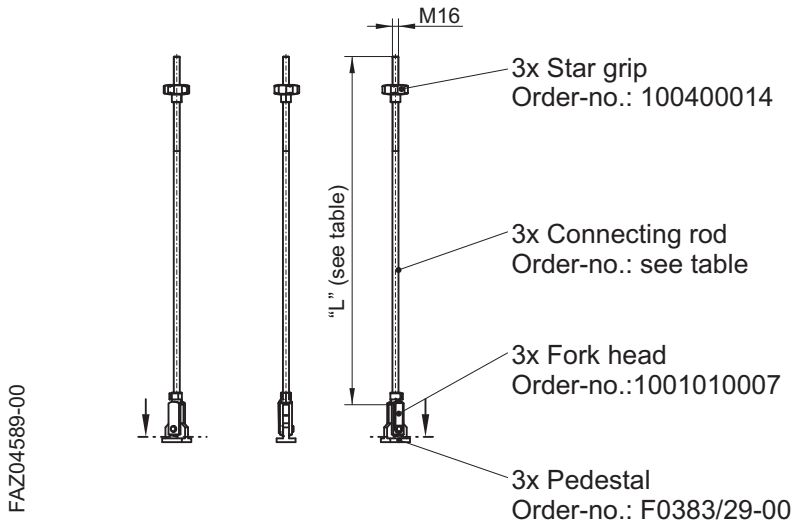
1090200398

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Subject to alterations!

### Barrel fixing device for 20, 25, 50, 200 kg

Complete kit barrel fastening device consisting of:



**Table dimensions and order number**

Barrel size (kg)	Length "L" connecting rod (mm)	Order number Single connecting rod	Order number Complete kit barrel fixing
20	370	FWZ02903-02	2191GF0001
18 - 25	470	FWZ02903-03	2191GF0002
25	550	FWZ02903-04	2191GF0003
50	725	FWZ02903-05	2191GF0004
200	950	FWZ02903-00	2191GF0005

Subject to alterations!

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