

CHARACTERISTICS

- **MODULAR STACKABLE RESERVOIRS**
- **VOLTAGES**
12V AC/DC
24V AC/DC
110V/230V
50/60 Hz, as standard
- **FLOW RATE**
0,14 cm³/rev
0,19 cm³/rev
0,02 ÷ 0,13 cm³/rev
0,04 ÷ 0,2 cm³/rev
- **RESERVOIRS**
2, 5, 8 litres
- **INTEGRATED FIXTURE**
for SMP and SMPM distributors
- **MULTI LUBE CYCLE**
multiple sensor counts and selectable pre-lube function
- **DUAL ACCESS PORTS:**
for convenient refilling and grease return line
- **MULTI CONNECTOR SYSTEM:** allow many electrical connector types to be applied to the standard product to suit varied OEM and end user requirements

MOBILE PLANT AND VEHICLE

- **MOBILE PLANT AND VEHICLE LUBRICATION**
- **MACHINE TOOLS**
like glass working machines or wood-working machines
- **HEAVY VEHICLES:** like earth moving machines, harvesters and other uses for special machines or vehicles
- **HEAVY INDUSTRIES:** like mining or construction
- **CHAIN & GEAR LUBRICATION**

THE SMALL PUMP PACKAGE WITH BIG FEATURES THE HEAVY DUTY PUMP FOR INDUSTRY AND VEHICLES

DESIGN AND ADVANCED SOLUTIONS

The **BRAVO** electric pump is a piston pump predisposed to operate with a maximum of three pumping units, with or without internal by-pass. Designed to work with progressive systems, it can feed several independent lines and, combining the outlets of two/three pumping units, the flow can be doubled or tripled.

The pump is available in two versions:

MANUAL: can be managed by an external PLC. Since it does not come with an internal control unit, this is the most economic solution for lubricating your systems.

AUTOMATIC: with electronic board built-in and local manual start-up. Thanks to the remote button, you can manually start the lubrication cycle on request. Low level sensor and one pumping are included as standard equipment.



- *Sturdy and heavy duty design*
- *Designed for industrial lubrication systems, heavy equipment and farm equipment;*
- *For progressive systems with many lubrication points;*
- *Alternative to manual lubrication*
- *Multiple pumping units*
- *VARIO-DRIVE control, the pump motor management system that protects and electronically adjusts the pumping system (automatic version).*
- *Multi-connector system: allows application of many types of standard connectors for the electrical connection. An OEM connection can also be created on request.*

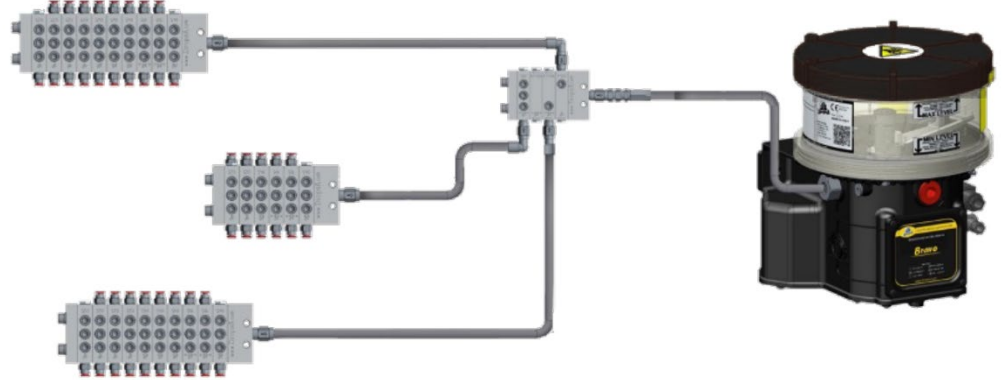
TECHNICAL INFORMATION

TECHNICAL CHARACTERISTICS	
Number of outlets / pumping elements	1 (3 max.)
Outlet thread	1/4" BSP
Nominal flow rate per outlet	0,14 cm ³ /rev (0.0085 in ³ /rev) 0,19 cm ³ /rev (0.012 in ³ /rev) 0,02 ÷ 0,13 cm ³ /rev (0.0012 ÷ 0.008 in ³ /rev) - Adjustable 0,04 ÷ 0,2 cm ³ /rev (0.0024 ÷ 0.012 in ³ /rev) - Adjustable
Working pressure	280 bar (4061 psi)
Integrated By-pass pressure (if present)	320 bar ±30 bar (4641 psi ±435 psi)
Reservoir Capacity	2 – 5 – 8 litres (0.53 – 1.32 – 2.11 gallons)
Max Grease capability	Grease NLGI 2
Operating temperature	-25°C ÷ +80°C
Storage temperature	-30°C ÷ +90°C
Protection grade	IP65 (IP 69K with special equipment)

BRAVO - THE EXTENTION OF THE PROGRESSIVE SYSTEM

BENEFITS OF PROGRESSIVE SYSTEM DROPSA

- Modular progressive system for excellent lubrication
- Ability to expand the system
- High accuracy
- Stainless steel
- Different progressive distributor for all needs
- SMX - nP - nPr+ - SMP (Ref. DropsA documents progressive system SMX C2104PI - nP C2213PI - nPr+ C2220PI - SMP C2071PI)



ESEMPIO DI IMPIANTO DI LUBRIFICAZIONE SU VEICOLI

Bravo is the cost effective solution for many type of vehicles like: heavy equipment, farm equipment and other special vehicles.

The complete lubrication system typically comprises:

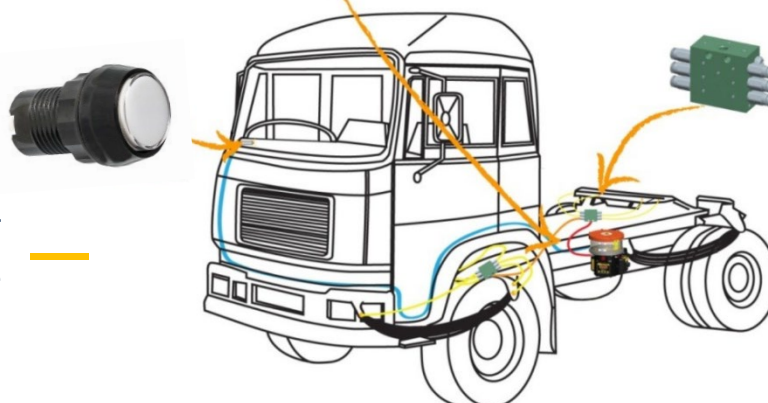
1. Bravo pump
2. Dividers
3. Remote status lamp with button

With just a status lamp & button placed in the vehicle cabin, the driver always knows the status of the lubrication system. Whenever needed an extra lubrication cycle, is just a push of a button.

Bravo is outfitted with a fixing point for integration SMP – SMPM distributors directly under the pump.

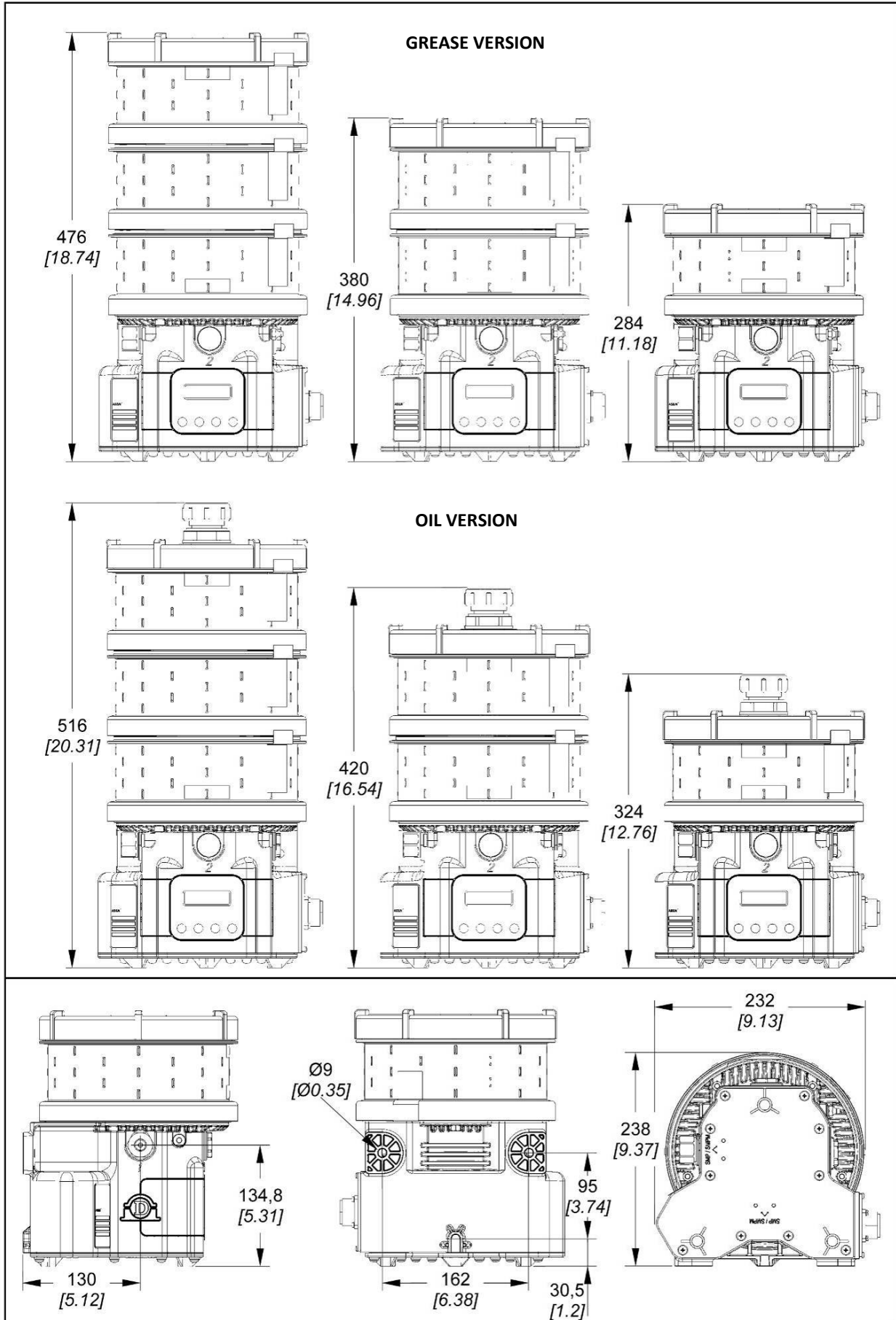


SMP – SMPM distributors can also be mounted on crucial point of the chassis in order to easily reach the lubrication pints.



REMOTE CONTROL SYSTEM - To have total control over the lubrication system.

DIMENSIONS (NOT TO SCALE)



Dimensions in mm [in]



ORDERING INFORMATION

AUTOMATIC VERSION							
Power supply VOLTAGE	GREASE			OIL			
	RESERVOIR 2 l (0.53 gal)	RESERVOIR 5 l (1.32 gal)	RESERVOIR 8 l (2.11 gal)	RESERVOIR 2 l (0.53 gal)	RESERVOIR 5 l (1.32 gal)	RESERVOIR 8 l (2.11 gal)	
110 V/230 V	0888400	0888401	0888402	0888415	0888416	0888417	
12 V	0888403-12V	0888404-12V	0888405-12V	0888418-12V	0888419-12V	0888420-12V	
24 V	0888403-24V	0888404-24V	0888405-24V	0888418-24V	0888419-24V	0888420-24V	
MANUAL VERSION							
Power supply VOLTAGE	GREASE			OIL			
	RESERVOIR 2 l (0.53 gal)	RESERVOIR 5 l (1.32 gal)	RESERVOIR 8 l (2.11 gal)	RESERVOIR 2 l (0.53 gal)	RESERVOIR 5 l (1.32 gal)	RESERVOIR 8 l (2.11 gal)	
110 V/230 V	0888406	0888407	0888408	0888421	0888422	0888423	
12 V	0888409	0888410	0888411	0888424	0888425	0888426	
24 V	0888412	0888413	0888414	0888427	0888428	0888429	
AUTOMATIC VERSION 12V/24V							
CONNECTION		FEMALE CONNECTOR		CONNECTIONS AVAILABLE			
CODE	DESCRIPTION	CODE	DESCRIPTION	Power Supply	Alarm contact	Cycle sensor	External switch
0888102	AMPH connector	0039828	AMPH connector	•	•	•	•
0888059	4 MPM connector	0039976	MPM connector	•	•	•	•
0888141	2 MPM connector	0039976	MPM connector	•	•		
0888139	1 MPM connector 3 M12 connector	0039976 0039999	MPM connector M12 connector	•	•	•	•
0888142	1 MPM connector 1 M12 connector	0039976 0039999	MPM connector M12 connector	•	•		
0888437	IP69K – 12V/24V	0038963 0039835	3 pin IP69K connector 4 pin IP69K connector	•	•	•	•
AUTOMATIC VERSION 110V/230V							
CONNECTION		FEMALE CONNECTOR		CONNECTIONS AVAILABLE			
CODE	DESCRIPTION	CODE	DESCRIPTION	Power Supply	Alarm contact	Cycle sensor	External switch
0888134	4 MPM connector	0039976	MPM connector	•	•	•	•
0888138	2 MPM connector	0039976	MPM connector	•	•		
0888136	1 MPM connector 3 M12 connector	0039976 0039999	MPM connector M12 connector	•	•	•	•
0888137	1 MPM connector 1 M12 connector	0039976 0039999	MPM connector M12 connector	•	•		
0888472	IP69K – 110V	0038963 0039835	3 pin IP69K connector 4 pin IP69K connector	•	•	•	•
0888474	IP69K – 230V	0038963 0039835	3 pin IP69K connector 4 pin IP69K connector	•	•	•	•
MANUAL VERSION 12V/24V							
CONNECTION		FEMALE CONNECTOR		CONNECTIONS AVAILABLE			
CODE	DESCRIPTION	CODE	DESCRIPTION	Power Supply	Alarm contact	Cycle sensor	External switch
0888141	2 MPM connector	0039976	MPM connector	•	•		
0888142	1 MPM connector 1 M12 connector	0039976 0039999	MPM connector M12 connector	•	•		
MANUAL VERSION 110V/230V							
CONNECTION		FEMALE CONNECTOR		CONNECTIONS AVAILABLE			
CODE	DESCRIPTION	CODE	DESCRIPTION	Power Supply	Alarm contact	Cycle sensor	External switch
0888138	2 MPM connector	0039976	MPM connector	•	•		
0888137	1 MPM connector 1 M12 connector	0039976 0039999	MPM connector M12 connector	•	•		



OPTIONAL				
CODE	DESCRIPTION	CODE	DESCRIPTION	NOTES
0039433	Remote control switch and lamp 12V	0888156	0,14 cm ³ /rev pump unit	
0039434	Remote control switch and lamp 24V	0880104	0,19 cm ³ /rev pump unit	
0888038	Grease filling cartridge kit	0888555	0,02 ÷ 0,13 cm ³ /rev adjustable pump unit	
0038966	IP69K protection plug connector	0880060	0,04 ÷ 0,2 cm ³ /rev adjustable pump unit	
0888470	IP69K protection kit	0888163*	External by-pass without pressure gauge *The purchase of code 3079007 is mandatory	
0010509	Screw for assembling SMP-SMPM	0888572*	External by-pass with pressure gauge *The purchase of code 3079007 is mandatory	
		3079007*	By-pass extension	

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Dropsa products can be purchased at Dropsa branches and authorised distributors.
Go to www.dropsa.com/contact or write to sales@dropsa.com

Distributor Info: