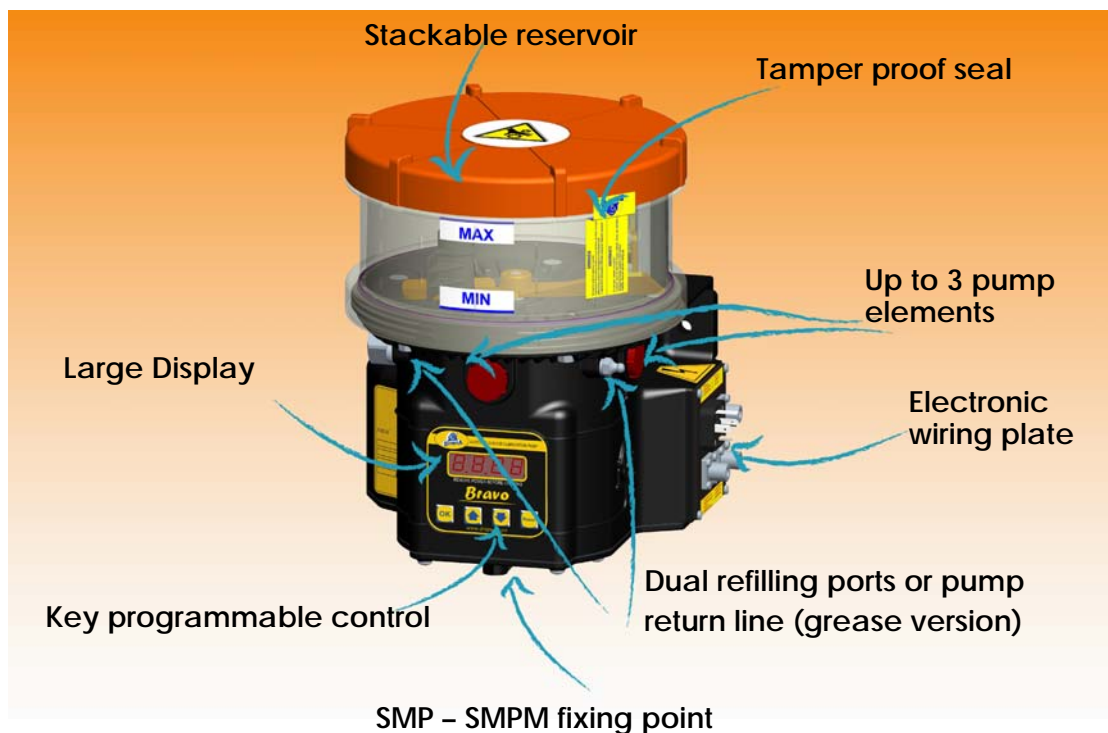


Bravo

The small pump package with big features.



Grease and Oil lubrication for industry and mobile plant.

DESIGN AND ADVANCED SOLUTIONS

This small pump package contains many innovative features exclusive to DropsA allowing fresh possibilities in lubrication systems engineering.

It is suited for not only for indoor industrial applications but also mobile plant and vehicle lubrication systems.

VARIO-DRIVE: THE INNOVATIVE SYSTEM

VARIO-Drive is a new power management system for the pump motor that protects and adjusts the pumping system electronically. That means increased reliability and greater lifespan of the pump motor as well as the ability to electronically adjust the pump output from 50% to 100% of its nominal value.

You will find that you are able to precisely control and engineer systems like never before.

NEW GENERATION CONTROLLER

The integrated next generation control system is a central to delivering these new solutions to the customer.

It allows five different ways to trigger and control the lubrication event in a system:

1. **Time based interval:** 0 min – 99 hours
2. **Impulse Counter:** 1 – 9999 cycles
3. **Combined Trigger:** both Timer and impulse counter
4. **Impulse Driven:** uses impulse input to determine both standby and operation mode (0-9999 impulses)
5. **Remote Only:** Acts as Slave to host machine.

Automatic Lubrication Systems

Key Features

- **Modular stackable reservoirs & Minimum level** as standard.
- **Voltages available:**
12V AC/DC
24V AC/DC
110V/230V 50/60 Hz, as standard.
- **Integrated fixture:** for SMP and SMPM distributors
- **VARIO-Drive:** allows electronic variation of pump output 50-100% of nominal output.
- **Diagnostic and event logging:** remote download ready.
- **Multi Lube cycle:** selectable pre-lube function.
- **Multi connector system:** allow many electrical connector types to be applied to the standard product to suit varied OEM and end user requirements.
- **Dual access ports:** for convenient refilling and grease return line.

Applications

- **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.

Application example: vehicles and heavy vehicles

Bravo is the cost effective solution for many type of vehicles like: trucks, trailers, tractors, earth moving equipment, harvesters and other special vehicles.

The complete lubrication system is composed by:

1. Bravo pump
2. SMP – SMPM distributors
3. Remote control

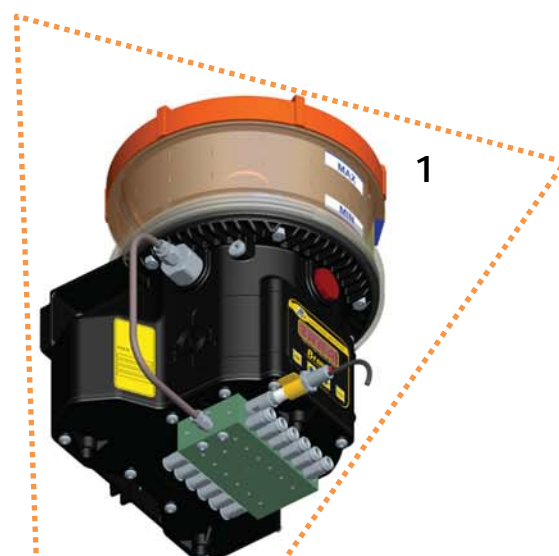
With just a button placed in the vehicle cabin, the driver has always under control the status of the lubrication system.

Whenever he decides to make an extra lubrication cycle, he can do it just pressing the button.

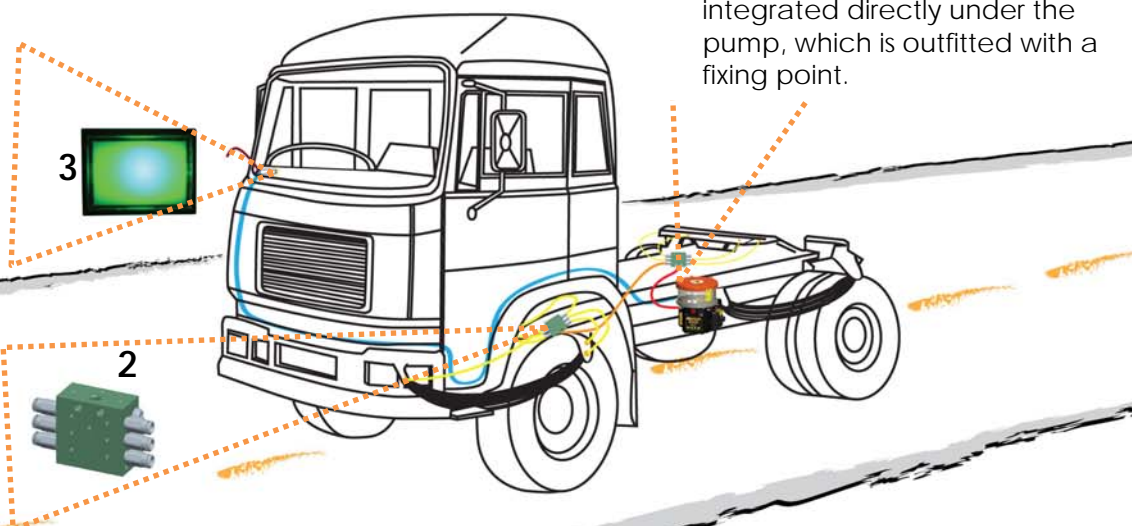
- 3** – Remote control system. To have full control of the lubrication system.

The button light has three status:

- Blinking light: the pump is lubricating;
- No light: the pump is in standby;
- Fixed light: alert the driver of a problem in the system



1 – SMP – SMPM distributors can be integrated directly under the pump, which is outfitted with a fixing point.

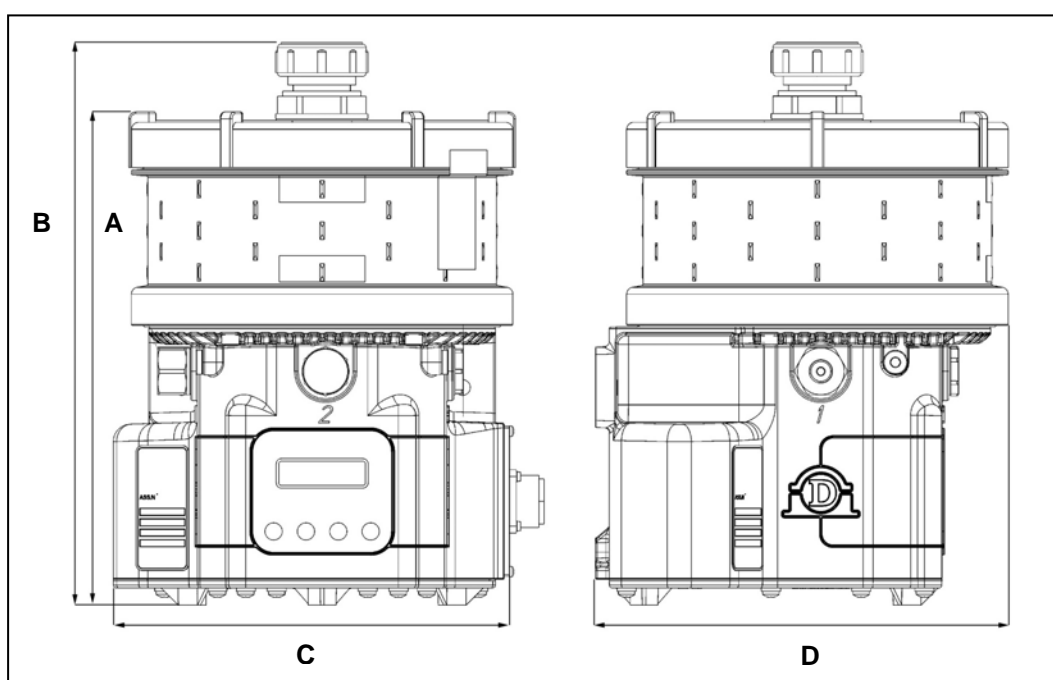


2 – SMP – SMPM distributors can also be mounted on crucial point of the chassis in order to easily reach the lubrication points.

Technical Information

TECHNICAL CHARACTERISTICS	
Bypass pressure setting	250 bar (3675 psi)
Single outlet Output Flow Delivery	2.8 cm ³ / min a 20 rpm (0.17 cu. in/min)
Operating Temperature	- 30° C to + 80° C (-22° to +176° F)
Number of outlets	1 standard, 3 max.
Reservoir capacity	2-5-8 kg. (4,4-11,17.6 lb) (with 1 or 2 or 3 reservoirs)
Grease Viscosity	Max. NGLI 2 (at operating temperature)
Oil Viscosity	Min. 46 cSt max. 1000 cSt
Operating Humidity	90% max (at operating temperature)
Protection grade	IP 65

DIMENSIONS MM (INCHES)			
Grease versions		Oil versions	
A	284 (11), 1 reservoir	B	324 (12.75), 1 reservoir
	380 (15), 2 reservoirs		420 (16.53), 2 reservoirs
	476 (19), 3 reservoirs		516 (20.13), 3 reservoirs
C	231,94 (9.13)		
D	238 (9.37)		



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Order Information

Step 1 – Choose your Bravo version

MANUAL VERSION						
	Oil			Grease		
	Reservoir 2 kg. (4.4 lb.)	Reservoir 5 kg. (11 lb)	Reservoir 8 kg. (17.6 lb)	Reservoir 2 kg. (4.4 lb.)	Reservoir 5 kg. (11 lb)	Reservoir 8 kg. (17.6 lb)
110V-220V	0888421	0888422	0888423	0888406	0888407	0888408
12V AC/DC	0888424	0888425	0888426	0888409	0888410	0888411
24V AC/DC	0888427	0888428	0888429	0888412	0888413	0888414

AUTOMATIC VERSION						
	Oil			Grease		
	Reservoir 2 kg. (4.4 lb.)	Reservoir 5 kg. (11 lb)	Reservoir 8 kg. (17.6 lb)	Reservoir 2 kg. (4.4 lb.)	Reservoir 5 kg. (11 lb)	Reservoir 8 kg. (17.6 lb)
110V-220V	0888415	0888416	0888417	0888400	0888401	0888402
12V -24V DC/AC	0888418	0888419	0888420	0888403	0888404	0888405

Step 2 – Choose the connector system

CONNECTORS FOR AUTOMATIC VERSION			
Base		Connector	
Part. N.	Description	Part. N.	Description
0888102	"Amphenol" connector base	0039829	Female connector
0888059	Base for connectors "MPM X 4 - 12V/24V"	0039976	Female connector
0888134	Base for connectors "MPM X 4 - 110V/230V"	0039976	Female connector
0888141	Base for connectors "MPM X 2 - 12V/24V"	0039976	Female connector
0888138	Base for connectors "MPM X 2 - 110V/230V"	0039976	Female connector
0888139	Base for connectors "M12 X 4 - 12V/24V"	0039976 0039999	Female connector Connector for M12 signals
0888136	Base for connectors "M12 X 4 - 110V/230V"	0039976 0039999	Female connector Connector for M12 signals
0888142	Base for connectors "M12 X 2 - 12V/24V"	0039976 0039999	Female connector Connector for M12 signals
0888137	Base for connectors "M12 X 2 - 110V/230V"	0039976 0039999	Female connector Connector for M12 signals

CONNECTORS FOR MANUAL VERSION			
Base		Connector	
Part. N.	Description	Part. N.	Description
0888141	Base for connectors "MPM X 2 - 12V/24V"	0039976	Female connector
0888138	Base for connectors "MPM X 2 - 110V/230V"	0039976	Female connector
0888142	Base for connectors "M12 X 2 - 12V/24V"	0039976 0039999	Female connector Connector for M12 signals
0888137	Base for connectors "M12 X 2 - 110V/230V"	0039976 0039999	Female connector Connector for M12 signals

Step 3 – Choose your remote control

REMOTE CONTROL	
Part N.	Description
0039433	Pulsante 12V
0039434	Pulsante 24V

Step 4 – Choose the screw for SMP – SMPM mounting

Part N.	Description
0010509 (*)	Screw SX45 UNI 10227-Z

(*) When ordering please specify quantity = 2