

## NP

### NANO-PROGRESSIVE

#### METERING DIVIDER ELEMENTS

#### FOR THE VOLUMETRIC DISTRIBUTION OF OILS AND GREASE



## NP NANO-PROGRESSIVE

### METERING DIVIDER ELEMENTS FOR THE VOLUMETRIC DISTRIBUTION OF OILS AND GREASE



Dropsa's nano-Progressive (**nP**) thanks to their compact and solid design are the ideal solution for grease lubrication applications that require small and accurately dispensed quantity of lubricant in a confined space.

Thanks to a patented RigidLock, nano-Progressive (**nP**) novel interlocking mechanism between the elements it has the rigidity of a mono-block divider but the flexibility of a modular segmented unit.

**nP** is a distributor that allows the feed flow rate be regulated in order to dispense very precise amounts to diverse outlets by means of the progressive movement of coupled pistons with micrometre-sized gears on the inside of the sliding hole.

The lubrication cycle can be controlled by a single sensor including the Dropsa solid state Ultrasensor product.

These dividers can be used in a variety of system configurations with different operating configurations making them them flexible for use in multiple applications. The compactness makes them particularly suitable for use in confined spaces.

#### APPLICATIONS

- Machine tools
- Textile machines

#### ADVANTAGES

- By combining a reduced space-envelope and maintaining modularity in a single package the **nano-Progressive** dividers offer many of the features found in top-of-line dividers at a fraction of the cost;
- The RigidLock Systems creates a rigid interlocking mechanism between the elements allowing for the quick replacement and correct repositing of the element;
- A full range of accessories and bridge elements allows for flexible engineering choices.

#### CHARACTERISTICS

- OPERATES UP TO 300 BAR (4350 PSI)
- DIVIDES OIL OR GREASE
- TOP OR SIDE OUTPUTS AS STANDARD
- SINGLE OR DUAL OUTLET SETTABLE BY CENTRAL PLUG
- FULL RANGE OF PRESSURE AND SPOOL MONITORING ACCESSORIES INTERCHANGEABLE WITH SMO PRODUCT LINE
- THE TWO OUTPUTS ARE COMBINED BY REPLACING THE ADAPTER JUST TAKE ONE ITEM OF STOCK
- SECURE AND CONTROLLED LUBRICATION SIMPLE AND FLEXIBLE ASSEMBLY WITH LOW MAINTENANCE COSTS
- BRIGHT LEFT / RIGHT / BOTH ELEMENTS ELIMINATE THE NEED FOR EXTERNAL CROSS PORTING
- DIFFERENT INLET MODULE WITH DIFFERENT HOLE-CENTERS FOR EASY INTERCHANGEABILITY

GENERAL TECHNICAL CHARACTERISTICS	
SINGULAR OUTLET FLOWRATE	0.0015 CU.INCH – 0.0027 CU.INCH – 0.0045 CU.INCH - 0.0064 CU.INCH - 0.0091 CU.INCH - 0.012 CU.INCH (0,025 CM <sup>3</sup> - 0,045 CM <sup>3</sup> - 0,075 CM <sup>3</sup> - 0,105 CM <sup>3</sup> - 0,150 CM <sup>3</sup> - 0,200 CM <sup>3</sup> )
NUMBER OF DIVIDERS ELEMENTS	3 ÷ 12
WORKING PRESSURE	15 BAR (218 PSI) ÷ 300 BAR (4350 PSI)
WORKING TEMPERATURE	-20°C ÷ +80°C
MATERIAL	ZINC - NICKEL PLATED STEEL
NUMBER OF INVERSION AT MINUTE	200 MAX (ACCORDING TO PRESSURE AND VISCOSITY)
INLET THREAD	1/8" BSP
OUTLET THREAD	1/8" BSP
LUBRICANTS	MIN. OIL. 32 CST – MAX. 2 NLGI GREASE

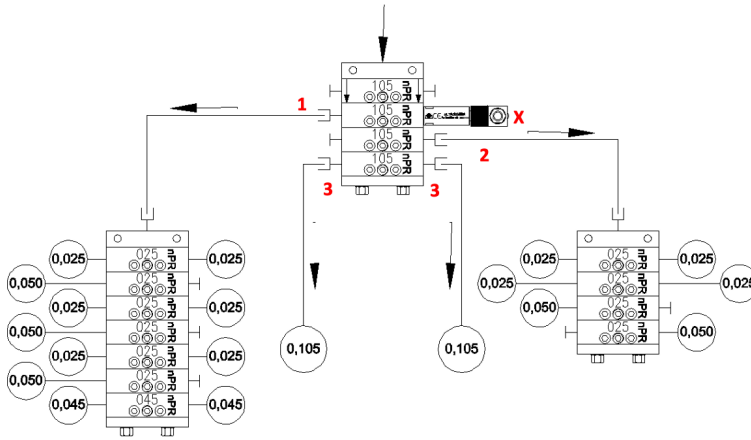
N.B.: The pressure drop is directly proportional to the number of cycles.

The oil and grease viscosity values always refer to the operating temperature.



# OPERATING PRINCIPLE

The system can be easily extended and the modular concept provides low cost replacement of component.



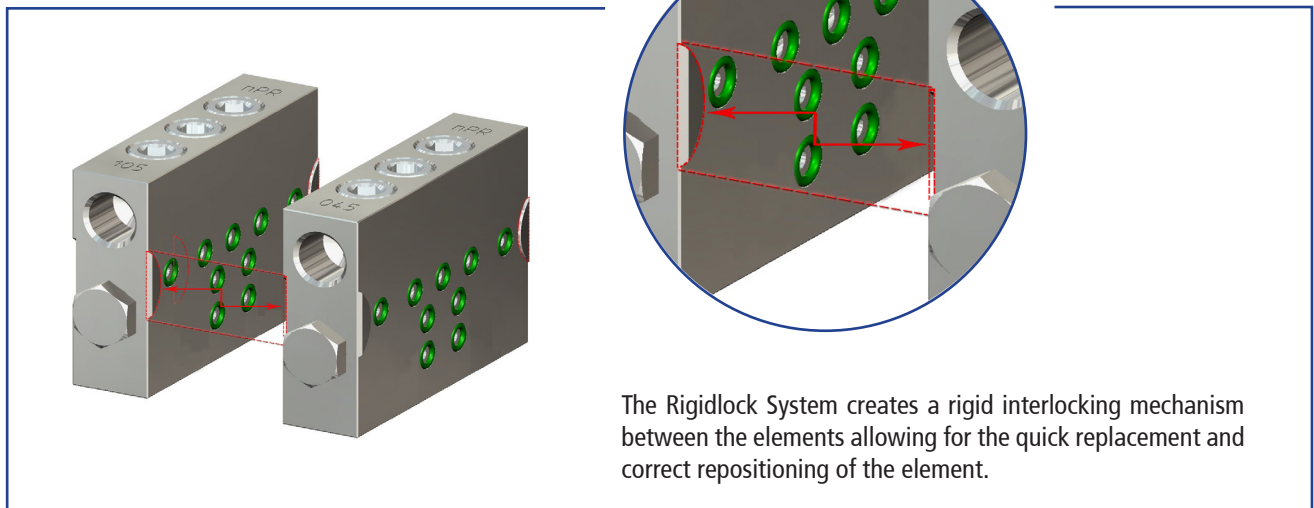
The **nP105** metering element **(1)** pilots a block of 6 metering 0,025 nPr delivering elements and one 0,045 nPr.

The **nP105** metering element **(2)** pilots a block of 4 0,025 nPr delivering elements.

The **nP105** metering element **(3)** directly lubricates two point of the machine.

The cycle is controlled by the Ultrasensor cycle indicator **(X)**.

# RIGIDLOCK

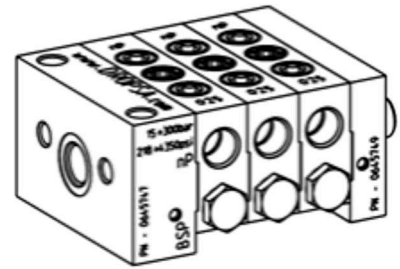
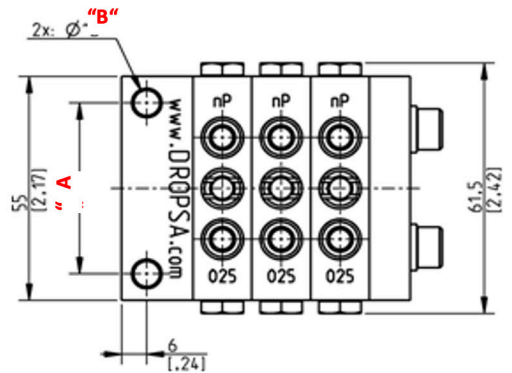
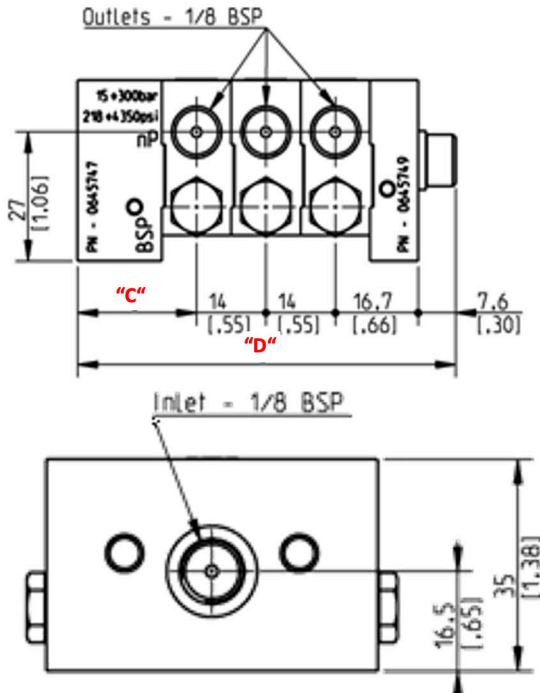


The Rigidlock System creates a rigid interlocking mechanism between the elements allowing for the quick replacement and correct repositioning of the element.



# DIMENSIONS

# Dropsa



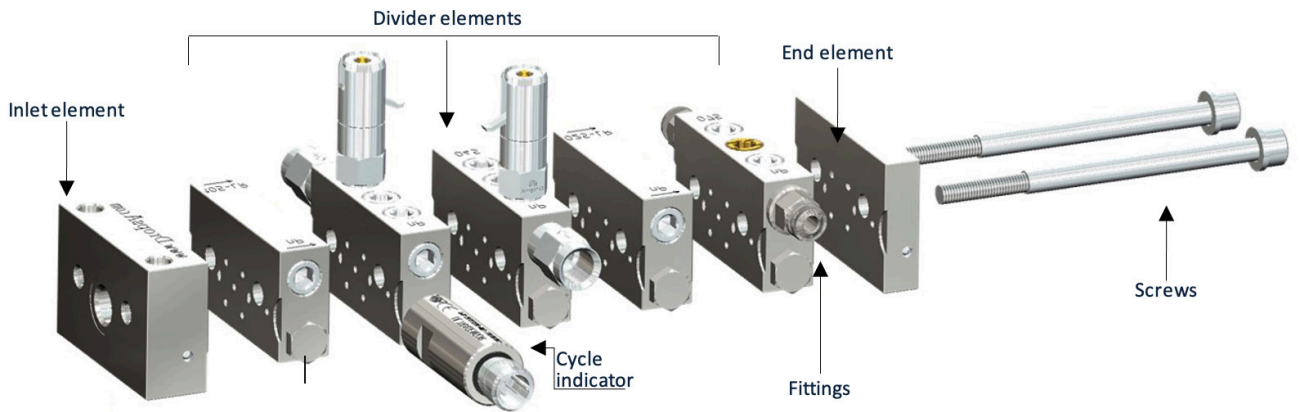
N°ELEMENTS	INLET NP STANDARD VERSION MM [INCH]				INLET NP -S 20MM REDUCED HOLE CENTERS MM [INCH]			
	"A"	"B"	"C"	"D"	"A"	"B"	"C"	"D"
3				76.3 [3]				82.8 [3.26]
4				90.3 [3.55]				96.8 [3.82]
5				104.3[4.11]				110.8 [4.36]
6				118.3 [4.66]				124.8 [4.91]
7	42 [1.65]	6.2 [.24]	24 [.94]	132.3 [5.21]	20 [.79]	5.5 [.22]	30.5 [1.2]	138.8 [5.46]
8				146.3 [5.76]				152.8 [6.02]
9				160.3 [6.31]				166.8 [6.57]
10				174.3 [6.86]				180.8 [7.12]
11				188.3 [7.41]				194.8 [7.67]
12				202.3 [7.96]				208.8 [8.22]

# ORDERING INFORMATION

In few steps you can compose different kind of modules as you need.

# Dropsa

1. INLET ELEMENT		2. DIVIDER ELEMENT (REPEAT FOR NUMBER OF ELEMENTS)						3. END ELEMENT
STANDARD ELEMENT	-S 20MM REDUCED	FLOWRATE Q.CM <sup>3</sup>	STANDARD ELEMENT	ELEMENT WITH INDICATOR	BRIDGE ELEMENT			PART NO.
					LEFT	RIGHT	LEFT / RIGHT	
0645747	0645748	0,025	0645750	0645778	0645754	0645758	0645762	0645749 + 0016047 (Ø6 WASHER)
		0,045	0645751	0645779	0645755	0645759	0645763	
		0,075	0645752	0645780	0645756	0645760	0645764	
		0,105	0645753	0645781	0645757	0645761	0645765	
		0,150	0645869	0646022	0646007	0646013	0646001	
		0,200	0645866	0646024	0646010	0646016	0646004	



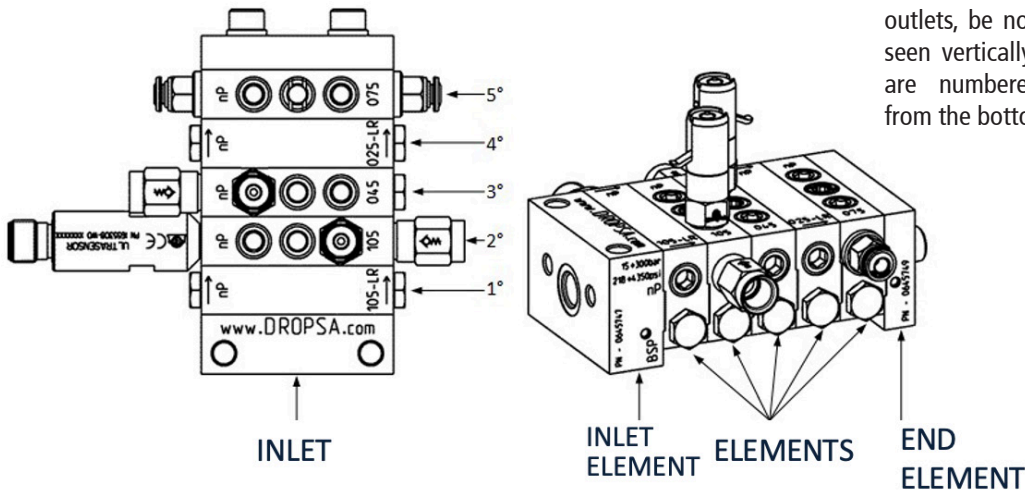
ITEM	PART N.	DESCRIPTION
<b>PRESSURE INDICATOR</b>	3290000	30 BAR WITH MEMORY PIN
	3290001	50 BAR WITH MEMORY PIN
	3290022	75 BAR WITH MEMORY PIN
	3290002	100 BAR WITH MEMORY PIN
	3290003	150 BAR WITH MEMORY PIN
	3290004	200 BAR WITH MEMORY PIN
	3290005	250 BAR WITH MEMORY PIN
	3290021	300 BAR WITH MEMORY PIN
	3290019	20 BAR WITH PIN
	3290006	30 BAR WITH PIN
	3290007	50 BAR WITH PIN
	3290008	100 BAR WITH PIN
	3290009	150 BAR WITH PIN
	3290010	200 BAR WITH PIN
	3290011	250 BAR WITH PIN
	3290012	30 BAR WITH MEMBRANE
	3290013	50 BAR WITH MEMBRANE
	3290014	100 BAR WITH MEMBRANE
3290015	150 BAR WITH MEMBRANE	
3290016	200 BAR WITH MEMBRANE	
3290017	250 BAR WITH MEMBRANE	
<b>CYCLE INDICATOR</b>	1655308 + 0039999	ULTRASENSOR + (M12 CONNECTOR)

ITEM	PART N.	DESCRIPTION
<b>FITTINGS</b>	0092335	1/8" VALVED FITTING FOR OUTLET
	0092555	1/8" VALVED FITTING FOR INLET
	0092080	Ø6 DOUBLE-TAPERED TERMINAL (150 BAR)
	0092069	Ø4 DOUBLE-TAPERED TERMINAL (150 BAR)
	0091942	Ø4 RING FITTING (250 BAR)
	3084577	PUSH-IN Ø4 (65 BAR)
	3084578	PUSH-IN Ø6 (65 BAR)
	3084695	SWIVEL PUSH-IN 90° Ø6 (150 BAR)
	3084696	SWIVEL PUSH-IN 90° Ø4 (150 BAR)
	<b>TUBING</b>	5119812
5119832		Ø4X1 DRAWN STEEL TUBE (500 BAR)
5118001		ASTM Ø6X0,71 COPPER STEEL TUBE (310 BAR)
5118000		ASTM Ø4X0,71 COPPER STEEL TUBE (500 BAR)
5501201		Ø4X0,5 ANNEALED COPPER TUBE (133 BAR)
5501203		Ø6X1 ANNEALED COPPER TUBE (200 BAR)
5717202		PA Ø4XØ2,5 TUBE (60 BAR)
5717203		PA Ø6XØ4 TUBE (50 BAR)
<b>SCREWS ORDER 2 PER ASSEMBLY</b>	0014396	3 ELEMENTS
	0014181	4 ELEMENTS
	0014397	5 ELEMENTS
	0014182	6 ELEMENTS
	0014191	7 ELEMENTS
	0014398	8 ELEMENTS
	0014399	9 ELEMENTS
	0014400	10 ELEMENTS
	0014401	11 ELEMENTS
	0014402	12 ELEMENTS
<b>WASHER ORDER 2 PER ASSEMBLY</b>	0016047	Ø6 WASHER
<b>PLUG AND ADAPTOR</b>	0641708	SINGLE OUTLET ADAPTOR
	3232098	PLUG 1/8 BSP



PART N.	DESCRIPTION
3140826	ASSEMBLY KIT 3 ELEMENTS
3140827	ASSEMBLY KIT 4 ELEMENTS
3140828	ASSEMBLY KIT 5 ELEMENTS
3140829	ASSEMBLY KIT 6 ELEMENTS
3140830	ASSEMBLY KIT 7 ELEMENTS
3140831	ASSEMBLY KIT 8 ELEMENTS
3140832	ASSEMBLY KIT 9 ELEMENTS
3140833	ASSEMBLY KIT 10 ELEMENTS
3140834	ASSEMBLY KIT 11 ELEMENTS
3140835	ASSEMBLY KIT 12 ELEMENTS
0640220	JUNCTION - DOSER - NP
0640221	BRIDGE JOINT WITH OUTPUT G1/8 - NP

Each kit includes 2 screws, 2 washers, plugs and single outlet adaptors according to the number of elements.



**NOTE:** to determine the left and right outlets, be noted that the assembly is seen vertically and metering elements are numbered sequentially starting from the bottom (inlet).

## SINGLE AND DOUBLE OUTLET CONVERSION

It is possible to combine the two flow rates of the same divider element by replacing the yellow Adapter Part No. 0641709 with the white Adapter Part No. 0641708 as shown in the drawing. When the two outlets are connected, remember to close off the one not being used with a plug (Part no. 3232098).

Sealing disc-washer  
Part No. 641791

(With hole for extraction)

