



# NP NANO-PROGRESSIVE

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

### CHARACTERISTICS

- PREVENT THE CORROSION
- OPERATES UP TO 200 BARS (2900 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
- SIMPLE AND FLEXIBLE ASSEMBLY WITH LOW MAINTENANCE COSTS
- BRIGHT LEFT/RIGHT/BOTH ELEMENTS ELIMINATE THE NEED FOR EXTERNAL CROSS PORTING
- TWO TYPES OF INLET MODULE WITH DIFFERENT HOLE-CENTERS FOR EASY INTERCHANGEABILITY.

Aluminium nano-Progressive (nP-Al) dividers are designed to resist rust formation due to water and oxygen.

Oxidation resistance makes the Aluminium nano-Progressive (nP-Al) the perfect solution for use in the food industry, such as canning sector, which is often subject to a massive presence of water.



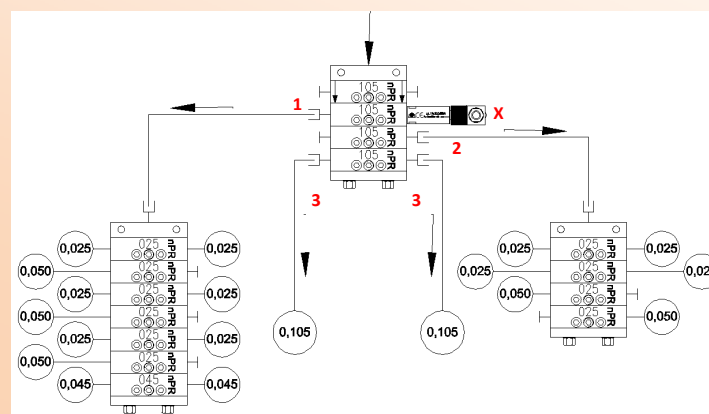
Dropsa's nano-Progressive (nP) thanks to their compact and solid design are the ideal solution for grease lubrication applications that require small and accurately dispensed quantity of lubricant in a confined space.

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.

The nP-Al is a distributor that allows the distribution of the feed flow rate in very precise quantities the precise quantities into the various available outputs. The lubrication cycle can be controlled by a single sensor including the Dropsa solid state Ultrasensor product.

### OPERATING PRINCIPLE

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



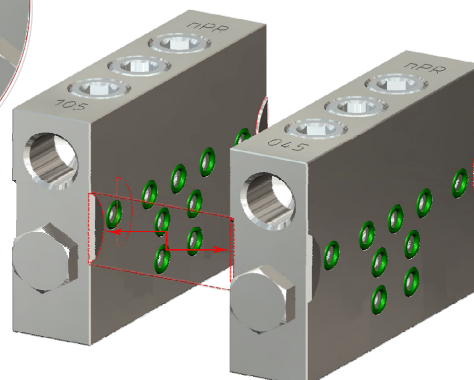
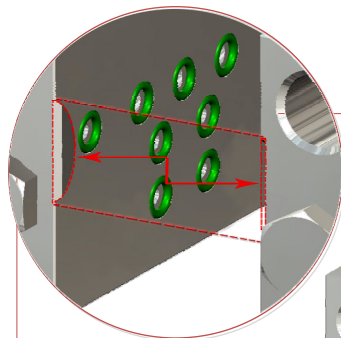
The nP105 metering element (1) pilots a block of 6 metering 0,025 nP delivering elements and one 0,045 nPr.

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

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

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

### RIGIDLOCK



THE RIGIDLOCK SYSTEMS CREATES A RIGID INTERLOCKING MECHANISM BETWEEN THE ELEMENTS VIRTUALLY ELIMINATING LEAKS TYPICALLY FOUND ON PREVIOUS SEGMENTED ELEMENTS CAUSED BY TORSION OR TENSION IN THE TUBING

### APPLICATION

- MACHINE TOOLS
- TEXTILES
- ANY SMALL-MEDIUM OIL AND GREASE SYSTEMS
- CANNING INDUSTRY

### 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 virtually eliminating leaks typically found on previous segmented elements caused by torsion or tension in the tubing
- A full range of accessories and bridge elements allows for flexible engineering choices.

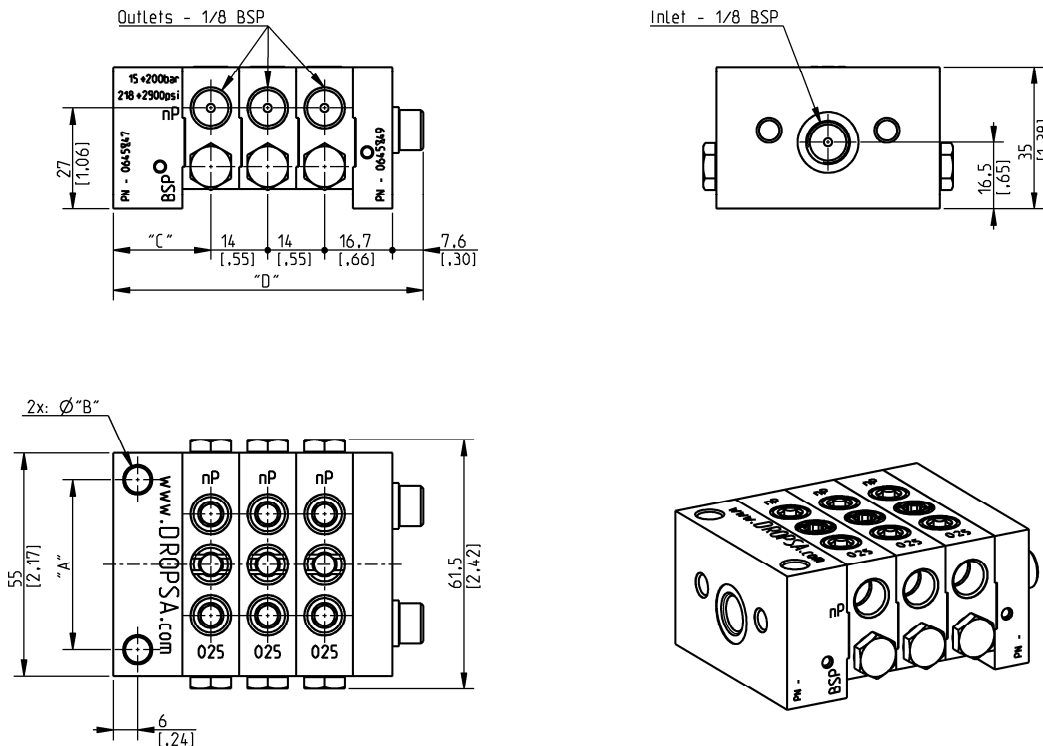
### TECHNICAL INFORMATION

#### GENERAL CHARACTERISTICS

Singular outlet Flowrate	0.0015 cu.inch – 0.0027 cu.inch – 0.0045 cu.inch - 0.0064 cu.inch (0,025cm <sup>3</sup> - 0,045cm <sup>3</sup> - 0,075cm <sup>3</sup> - 0,105cm <sup>3</sup> )
Number of Dividers elements	3 ÷ 12
Working pressure	15bar (218psi) ÷ 200bar (2900psi)
Working temperature	-20°C ÷ +80°C
Material	Aluminium
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.

### DIMENSIONS



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				132.3 [5.21]				138.8 [5.46]
8	42 [1.65]	6.2 [0.24]	24 [0.94]	146.3 [5.76]	20 [0.79]	5.5 [0.22]	30.5 [1.2]	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]

## CONFIGURATION INFORMATION

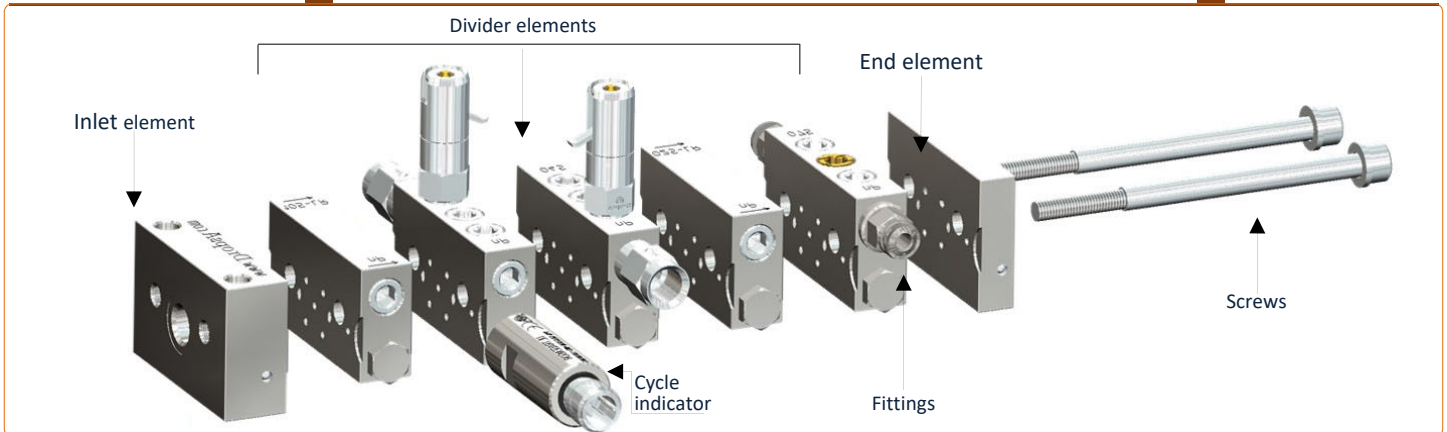
IN FEW STEPS YOU CAN COMPOSE DIFFERENT KIND OF MODULES AS YOU NEED:

### 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	
0645847	0645848	0.025	0645850	0645878	0645854	0645858	0645862	0645849+ 0675234 (ø6 washer)
		0.045	0645851	0645879	0645855	0645859	0645863	
		0.075	0645852	0645880	0645856	0645860	0645864	
		0.105	0645853	0645881	0645857	0645861	0645865	



### 4. FITTINGS

ITEM	DESCRIPTION	PART N.	ITEM	DESCRIPTION	PART N.
PRESSURE INDICATOR	30bar with memory pin	3290000	FITTINGS	1/8" valved fitting for OUTLETS	0092335
	50bar with memory pin	3290001		1/8" valved fitting for INLET	0092555
	75bar with memory pin	3290022		Ø6 Compression Fittings (150bar)	0092080
	100bar with memory pin	3290002		Ø4 Compression Fittings (150bar)	0092069
	150bar with memory pin	3290003		Ø4 ring fitting (250bar)	0091942
	200bar with memory pin	3290004		Push-in Ø4 (65bar)	3084577
	250bar with memory pin	3290005		Push-in Ø6 (65bar)	3084578
	300bar with memory pin	3290021		Swivel Push-in 90° Ø6 (150bar)	3084695
	20bar with pin	3290019		Swivel Push-in 90° Ø4 (150bar)	3084696
	30bar with pin	3290006		TUBING	Ø6x1 Drawn steel tube (400bar)
	50bar with pin	3290007	Ø4x1 Drawn steel tube (500bar)		5119832
	100bar with pin	3290008	ASTM Ø6x0,71 Copper steel tube		5118001
	150bar with pin	3290009	ASTM Ø4x0,71 Copper steel tube		5118000
	200bar with pin	3290010	Ø4x0,5 Annealed copper tube (133bar)		5501201
	250bar with pin	3290011	Ø6x1 Annealed copper tube (200bar)		5501203
	30 bar with membrane	3290012	PA Ø4xØ2,5 Tube (60bar)		5717202
	50 bar with membrane	3290013	PA Ø6xØ4 Tube (50bar)	5717203	
100 bar with membrane	3290014	SCREWS order 2 per assembly	3 elements	0014403	
150 bar with membrane	3290015		4 elements	0014404	
200 bar with membrane	3290016		5 elements	0014405	
250 bar with membrane	3290017		6 elements	0014406	
CYCLE INDICATOR	ULTRASENSOR + (M12 Connector)		1655308 + 0039999	7 elements	0014407
				8 elements	0014408
				9 elements	0014409
				10 elements	0014410
				11 elements	0014411
				12 elements	0014412

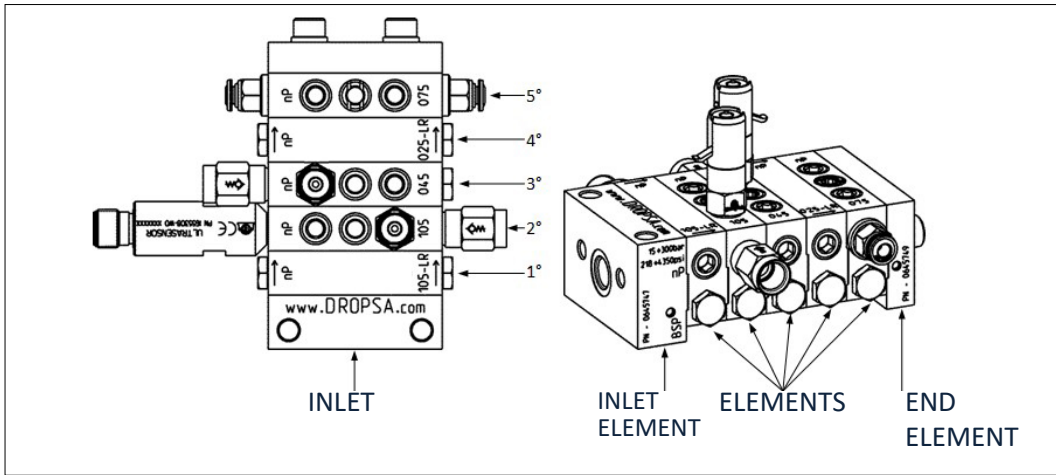
DESCRIPTION	PART N.
Screws Kit / Np3 Aluminium	3140846
Screws Kit / Np4 Aluminium	3140847
Screws Kit / Np5 Aluminium	3140848
Screws Kit / Np6 Aluminium	3140849
Screws Kit / Np7 Aluminium	3140850
Screws Kit / Np8 Aluminium	3140851
Screws Kit / Np9 Aluminium	3140852
Screws Kit / Np10 Aluminium	3140853
Screws Kit / Np11 Aluminium	3140854
Screws Kit / Np12 Aluminium	3140855

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

ITEM	DESCRIPTION	PART N.
Washer (order 2 per assembly)	Ø6 washer	0675234
Plug and Adaptor	Single outlet adaptor	0646250
	Plug 1/8 BSP	3232064

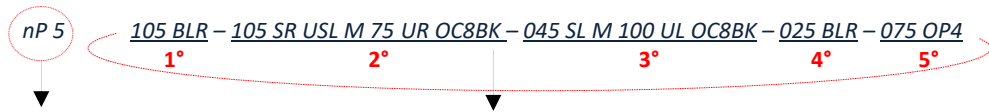


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**Note:** to determine the left and right outlets, be noted that the assembly is seen vertically and metering elements are numbered sequentially starting from the bottom (inlet).

Indicate the full string of the package as in the following ordering example:



Config. INLET and PACK		
TYPE	INLET	N° ELEMENTS
nP	Empty Standard Hole centers 42mm	3÷12
	S Reduced Hole center 20mm	

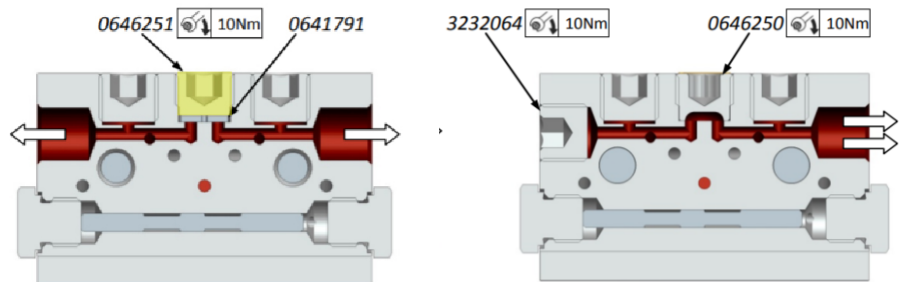
ELEMENT configuration (repeat for N° element)						
FLOWRATE [cm³]	OUTLET	CYCLE CONTROL	PRESSURE CONTROL			OUTLET FITTINGS
			TYPE	PRESSURE [bar]	POSITION	
025 0,025	Empty both	US Ultrasensor right side	M with memory rod	30-50-75 100-150-200 250-300	L left	OP4 Ø4 Push-in
045 0,045	SL single left	USL Ultrasensor left side	P with rod	20-30-50 100-150 200-250	R right	OP6 Ø6 Push-in
075 0,075	SR single right	V visual right side	B with membrane	30-50 100-150 200-250	LR left right	OC8BK 1/8" BSP valved
105 0,105	BL bridge left	VL visual left side			UL Single left upper	OC8NK 1/8" NPT valved
	BR bridge right				UR Single right upper	
	BLR bridge left & right				URL Single right & left upper	
	U Both Upper					
	UL Single left upper					
	UR Single right upper					

## SINGLE AND DOUBLE OUTLET CONVERSION

It is possible to add the flow rates of a single divider element by substituting the yellow adapter, Part Number **0646251** with the white one, Part Number **0646250**. Once the adapter **0646251** is unscrewed, it is necessary to remove the sealing disc located under the same adapter, Part Number **0641791**. This disc has a central hole for easy extraction. Use a small flat head screwdriver being careful not to damage the thread of the hole.

Once the yellow adapter and the sealing disc are extracted and the new adapter for a single outlet is inserted (without a disc!), screw in the plug, Part Number **3232064**, onto the outlet of the element that you want to plug.

This way, the opposite outlet will receive double the amount of lubricant.



Distributor Info: