



# NPR+

## NANO- PROGRESSIVE REPLACEABLE

### CHARACTERISTICS

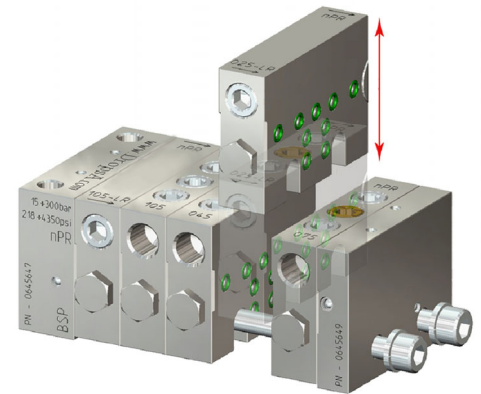
- OPERATES UP TO 300 BAR (4350 PSI)
- THE DROPSA NPR + REPLACEABLE RAIL MOUNT SYSTEM PATENT ALLOWS FOR EASY MOUNTING AND REPLACING AN ITEM WITHOUT COMPLETE DISASSEMBLY BEING REQUIRED.
- OPERATION WITH OIL AND GREASE
- TOP OR SIDE OUTPUT AS STANDARD
- SINGLE OR DUAL OUTLET SETTABLE BY CENTRAL PLUG
- FULL RANGE OF PRESSURE AND SPOOL MONITORING ACCESSORIES ARE INTERCHANGEABLE WITH SMO PRODUCT LINE
- THE TWO OUTPUTS ARE COMBINED BY REPLACING THE ADAPTER. IT ENOUGH TO KEEP ONE ITEM IN STOCK
- SAFE AND CONTROLLED LUBRICATION
- ASSEMBLING IS SIMPLE AND FLEXIBLE WITH LOW MAINTENANCE COSTS.
- THE RIGHT/BOTH ELEMENTS BOTH ELIMINATE THE NEED FOR EXTERNAL BRIDGES
- TWO TYPES OF INPUT MODULES WITH DIFFERENT CENTRAL BORES FOR EASY INTERCHANGEABILITY
- SURFACE TREATMENT WITH A ZINC-NICKEL ALLOY

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

Dropsa's nano-Progressive Replaceable + (nPR+) dividers are the ideal solution for grease lubrication applications that require small and accurately dispensed quantities of lubricant with a compact and solid design. Thanks to the interlocking mechanism between the elements, nano-Progressive Replaceable + (nPR+) has the rigidity of a mono-block divider, but the flexibility of a modular segmented unit.

nPR+ is a distributor that allows, by means of the progressive movement of pistons coupled with micrometric gears inside the running hole, 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 (nPR+ is arranged to use various types of sensors) mounted on one of the divider elements.

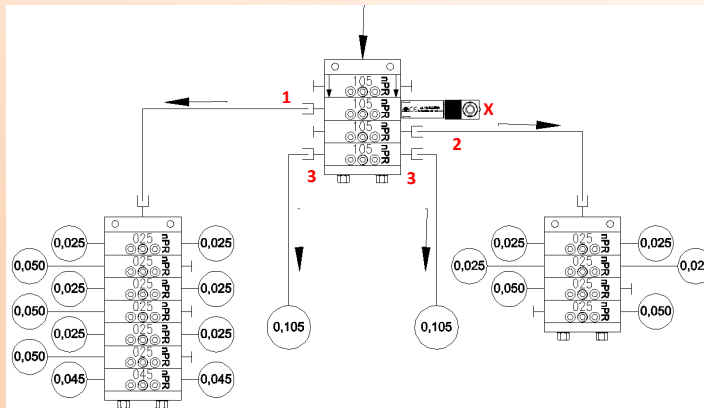


nPR+ uses an innovative "rail & lock" concept to allow the element to be replaced or moved without the need to completely dismantle the assembly. This is an industry first for segmented progressive dividers allowing quick easy modification or replacement of an assembly element without the cost of separating from the base.

These dividers may be used in a variety of system and operating configurations, making them flexible for use in multiple applications as a result. The compactness makes them particularly suitable for use in tight spaces.

### OPERATING PRINCIPLE

The system can be easily expanded and the modular concept allows for it to be replaced at low cost.

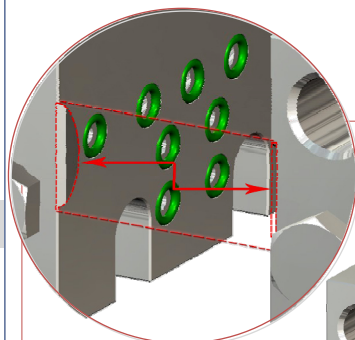


The master divider element nPr105 (1) controls a group of 6 divider elements with a flow rate of 0.025cm<sup>3</sup>/cycle and one with 0.045 cm<sup>3</sup>/cycle.

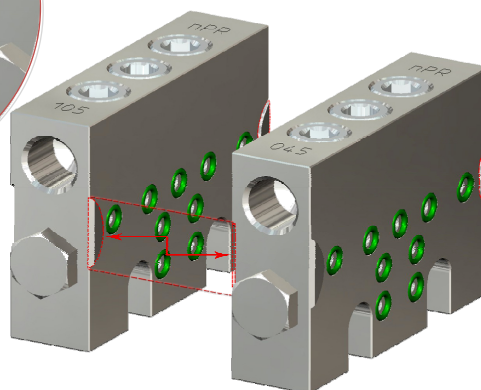
The master divider element nPr105 (2) controls a group of four divider elements with a flow rate of 0.025.

The master divider element nPr105 (3) directly lubricates two points of the machine.

The cycle is controlled by contact (X).



### RIGIDLOCK system



THE PATENTED RIGIDLOCK SYSTEM CREATES AN INTERLOCKING MECHANISM BETWEEN THE ELEMENTS, ALLOWING FOR EASY REPLACEMENT AND CORRECT REPOSITIONING OF THE ELEMENT.

### APPLICATIONS

- TOOL MACHINES
- TEXTILES
- ANY SMALL-MEDIUM OIL AND GREASE SYSTEMS

### 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 an interlocking mechanism between the elements, allowing for the quick replacement and the correct repositioning of the element;
- A full range of accessories and bridge elements allow for flexible engineering choices.

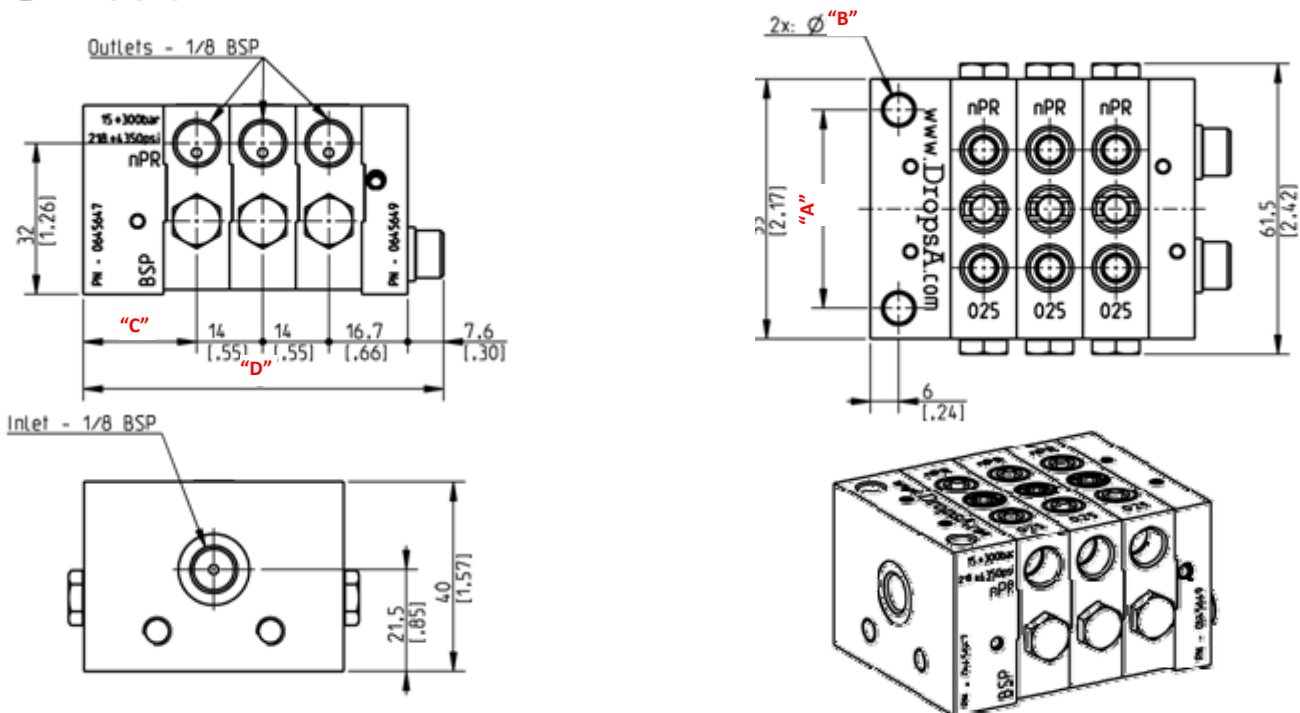
### TECHNICAL INFORMATION

#### GENERAL SPECIFICATIONS

Singular outlet flow rate	0.025cm <sup>3</sup> - 0.045 cm <sup>3</sup> - 0.075 cm <sup>3</sup> - 0.105cm <sup>3</sup>
Number of Divider elements	3 ÷ 12
Working pressure	15bar (218psi) ÷ 300bar (4350psi)
Operating temperature	-20°C ÷ +80°C
Material	Zinc-nickel plated steel
Number of inversions per minute	200 max.
Inlet threaded connection	G1/8" UNI-ISO 228/1
Outlet thread	G1/8" UNI-ISO 228/1
Lubricants	Min. Oil. 32 cSt –max. 2 NLGI grease

**Note:** The drop in pressure is directly proportional to the number of cycles.  
The oil and grease viscosity values always refer to the operating temperature.

### DIMENSIONS



Number of elements	nP-INIZIALE – standard version mm [inch]				nP-INIZIALE -S reduced diameter holes 20mm 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 [24]	24 [94]	146.3 [5.76]	20 [7.9]	5.5 [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

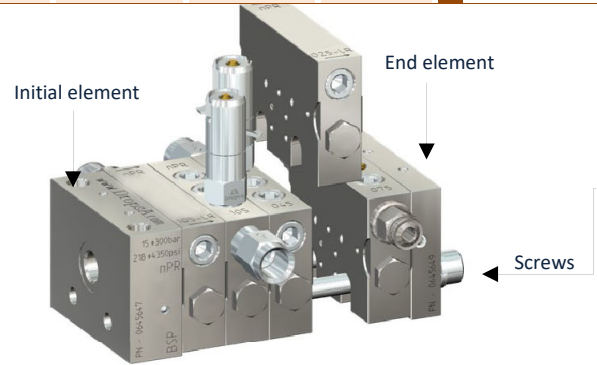
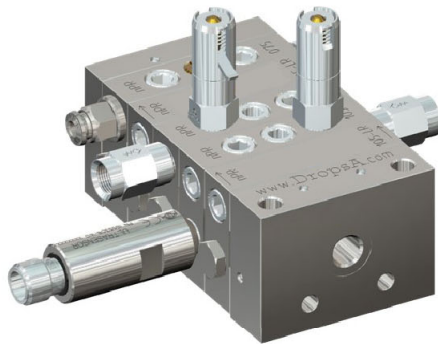
IN A FEW STEPS YOU CAN COMPOSE DIFFERENT KINDS OF MODULES AS NEEDED:

#### 1. INITIAL ELEMENT

#### 2. DIVIDER ELEMENT

#### 3. END ELEMENT

STANDARD ELEMENT	-S reduced diameter holes 20mm	CAPACITY Q. cm <sup>3</sup>	DIVIDER ELEMENT	Element with a visual cycle indicator	DIVIDER BRIDGE ELEMENT			PART NUMBERS
					LEFT	RIGHT	LEFT/ RIGHT	
0645647	0645648	0.025	0645650	0645678	0645654	0645658	0645662	0645649 + 0016050 (Ø6 washer)
		0.045	0645651	0645679	0645655	0645659	0645663	
		0.075	0645652	0645680	0645656	0645660	0645664	
		0.105	0645653	0645681	0645657	0645661	0645665	



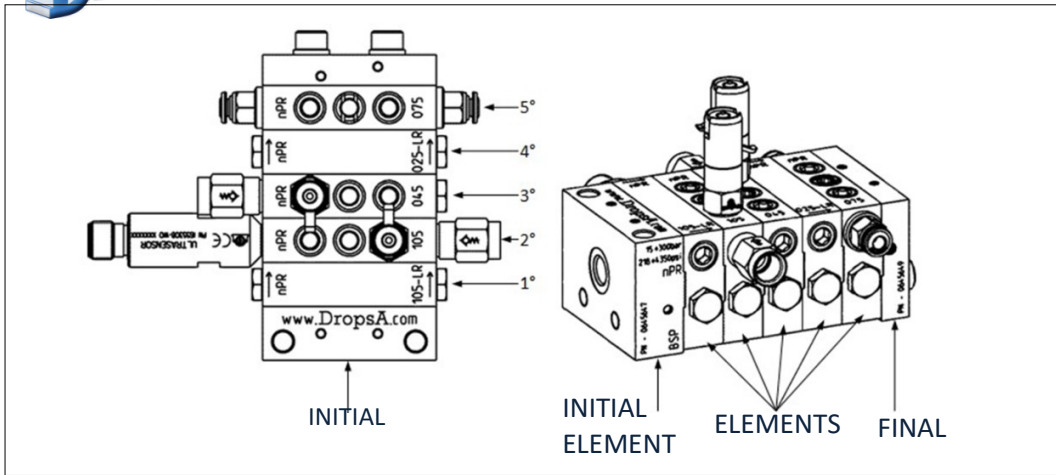
#### 4. FITTINGS

ITEM	DESCRIPTION	PART	ITEM	DESCRIPTION	PART
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		Double cone terminal Ø6 (150 bar)	0092080
	100bar with memory pin	3290002		Double cone terminal Ø4 (150 bar)	0092069
	150bar with memory pin	3290003		Ø4 ring fitting (250 bar)	0091942
	200bar with memory pin	3290004		Push-in Ø4 (65 bar)	3084577
	250bar with memory pin	3290005		Push-in Ø6 (65 bar)	3084578
	300bar with memory pin	3290021		90° Swivel Push-in Ø6 (150 bar)	3084695
	20bar with pin	3290019		Swivel Push-in 90° Ø4 (150 bar)	3084696
	30bar with pin	3290006		Ø6x1 Drawn steel tube (400 bar)	5119812
	50bar with pin	3290007		Ø4x1 Drawn steel tube (500 bar)	5119832
	100bar with pin	3290008		ASTM Ø6x0,71 Copper steel tube (310 bar)	5118001
	150bar with pin	3290009		ASTM Ø4x0,71 Copper steel tube (500 bar)	5118000
	200bar with pin	3290010		Ø4x0,5 Annealed copper tube (133 bar)	5501201
	250bar with pin	3290011		Ø6x1 Annealed copper tube (200 bar)	5501203
	30 bar with membrane	3290012		PA Ø4xØ2,5 Tube (60 bar)	5717202
	50 bar with membrane	3290013		PA Ø6xØ4 Tube (50 bar)	5717203
100 bar with membrane	3290014	3 elements	0014301		
150 bar with membrane	3290015	4 elements	0014302		
200 bar with membrane	3290016	5 elements	0014303		
250 bar with membrane	3290017	6 elements	0014304		
CYCLE INDICATOR	ULTRASENSOR + (M12 Connector)	1655308 + 0039999	SCREWS	7 elements	0014305
				8 elements	0014306
9 elements	0014307				
10 elements	0014308				
11 elements	0014309				
12 elements	0014310				

DESCRIPTION	PART NUMBER	
Assembly kit, 3 elements	3140826	Each kit contains 2 bolts, 2 washers, adaptors and many caps depending on the number of modules
Assembly kit, 4 elements	3140827	
Assembly kit, 5 elements	3140828	
Assembly kit, 6 elements	3140829	
Assembly kit, 7 elements	3140830	
Assembly kit, 8 elements	3140831	
Assembly kit, 9 elements	3140832	
Assembly kit, 10 elements	3140833	
Assembly kit, 11 elements	3140834	
Assembly kit, 12 elements	3140835	

ITEM	DESCRIPTION	PART
Washer (2 pieces for each assembled)	Ø6 washer	0016050
Plug and adapter	Single-output adapter	0642016
	Grub screw 1/8 BSP	3232124





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

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

*nPr5* 105 BLR - 105 SR USL M 75 R OC8BK - 045 SL M 100 L OC8BK - 025 BLR - 075 OP4

1°                      2°                      3°                      4°                      5°

Config. INITIAL AND PACKAGE		
TYPE	INITIAL	N° ELEMENTS
<i>nPR</i>	Empty reduced	3÷12
	S reduced distance 20	

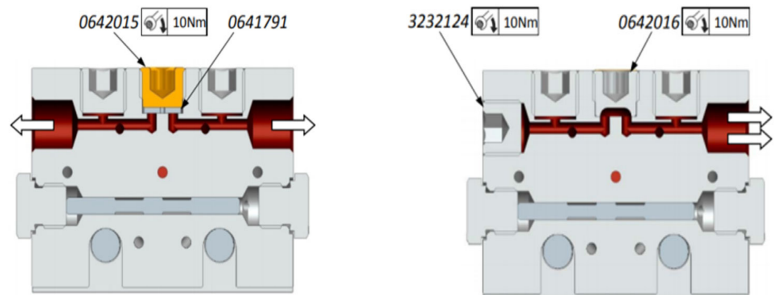
ELEMENT configuration (repeat for number of element)							
FLOWRAT E [cm³]	OUTLET	CYCLE CONTROL	PRESSURE CONTROL			OUTLET FITTINGS	
			TYPE	PRESSURE [bar]	POSITION		
025 0.025	empty both	US Ultrasensor right side	M with memory rod	30, -50, -75 100, -150, - 200 250-300	L left	OP4 Ø4 Push-in	
045 0.045	SL single left	USL Ultrasensor Left side	P with pin	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	V visual left side			UL upper left	OC8NK 1/8" NTP valved	
	BR right bridge				UR, upper right		
	BLR bridge left/right				ULR, upper left / right		
	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 **0642015** with the white one, Part Number **0642016**. Once the adapter **0642015** 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 **3232124**, 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: