



NANO- PROGRESSIVE REPLACEABLE NPR

CHARACTERISTICS

- OPERATES UP TO 300 BAR (4350 PSI)
- DIVIDES OIL OR GREASE
- DROPSA NP-REPLACEABLE RAIL MOUNT SYSTEM ALLOWS EASE OF ASSEMBLY AND SUBSTITUTION OF AN ELEMENT WITHOUT COMPLETE DISASSEMBLY
- DROPSA PATENTED RIGID-LOCK MODULAR ELEMENT TECHNOLOGY GIVES MONO-BLOCK RIGIDITY TO A SEGMENTED BASE
- 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
- ASSEMBLING SIMPLE AND FLEXIBLE.
- BRIDGE LEFT/RIGHT/BOTH ELEMENTS ELIMINATE THE NEED FOR EXTERNAL CROSS PORTING.
- DIFFERENT INLET MODULE WITH DIFFERENT HOLE-CENTERS FOR EASY INTERCHANGEABILITY

METERING 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 quantity of lubricant in a compact and solid footprint. Thanks to a patented **RigidLock** novel interlocking mechanism between the elements **it has the rigidity of a mono-block divider but the flexibility of a modular segmented unit.**

The **nPr**, uses the progressive movement of pistons to allow precise quantities of lubricant to be accurately dispensed to multiple points.

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

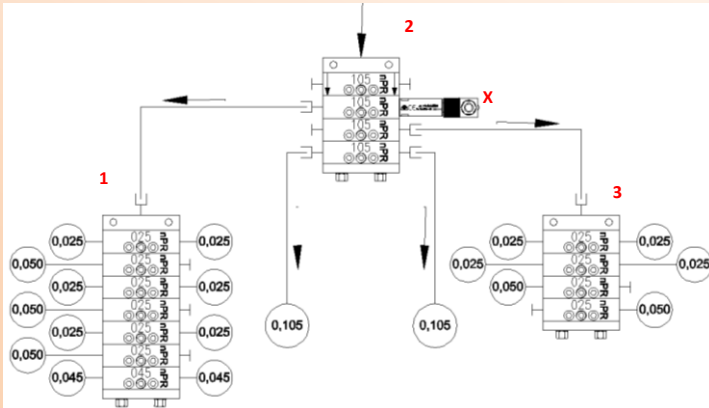


nPr uses an innovative rail & rigid-lock concept to allow the element to be replaced or re-organized without the need to completely dismantle the assembly. This is an industry first for segmented progressive dividers allowing quick easy modification or replacement of an assembly element without the cost of a separate base porting module.

The compactness makes them particularly suitable for use in confined spaces. These metering elements may be used in a variety of system configurations and have different working configurations that make them flexible for use in multiple applications.

OPERATING PRINCIPLE

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

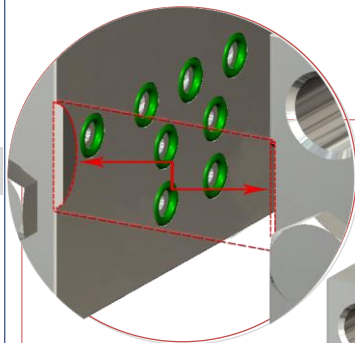


The **nPr105** metering element (1) pilots a block of 6 metering 0,025 nPr delivering elements and one 0,045 nPr delivering element.

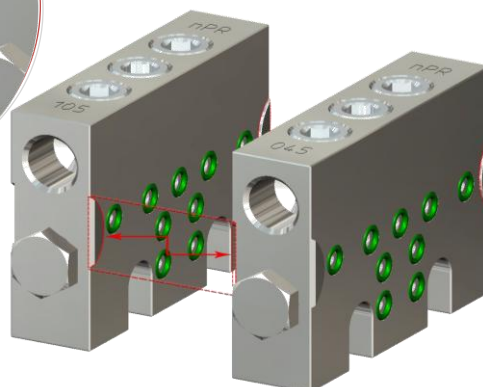
The **nPr105** metering element (3) pilots a block of 3 0,025 nPr delivering elements and one 0,050 nPr delivering element.

The **nPr105** metering element (2) directly lubricates two point 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



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ADVANTAGES

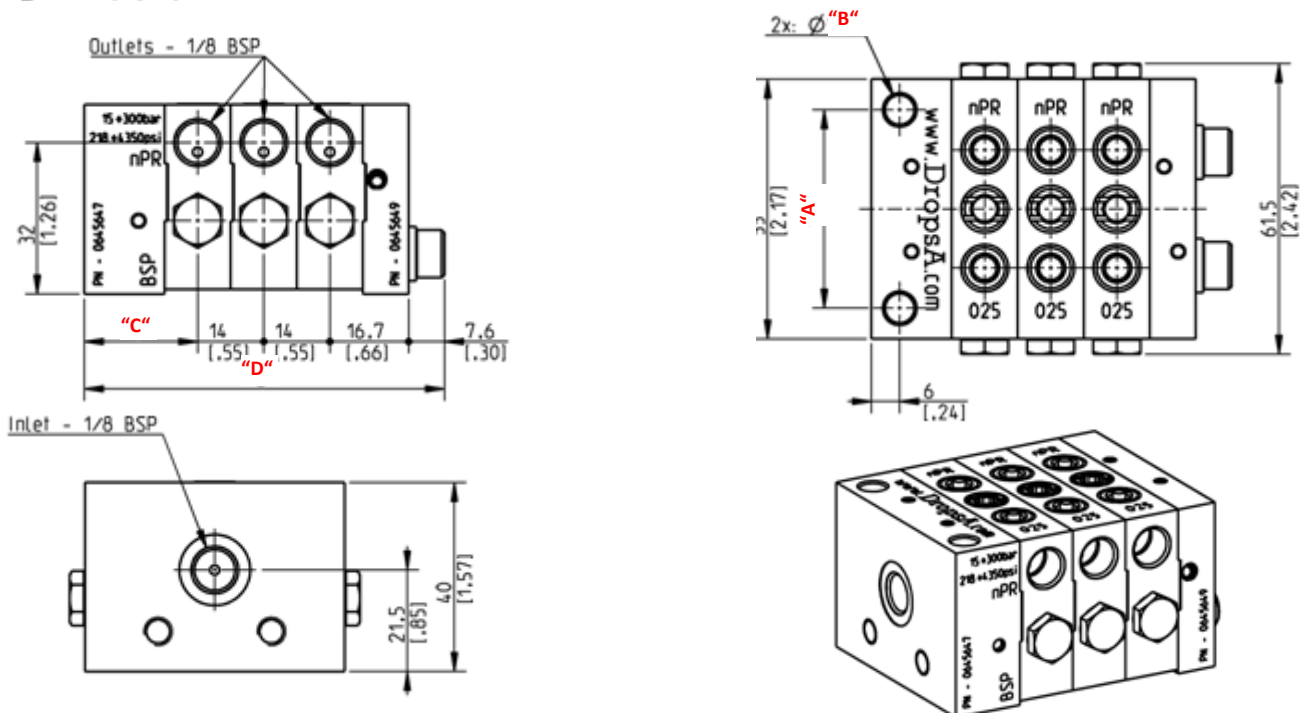
- By combining a reduced space-envelope and maintaining modularity in a single package the **nano-Progressive Replaceable** dividers offer many of the features found in top-of-line dividers at a fraction of the cost;
- The **RigidLock Systems** creates a rigid interlocking mechanisms between the elements 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 ³ - 0,045cm ³ - 0,075cm ³ - 0,105cm ³)
Number of Dividers elements	3 ÷ 12
Working pressure	15bar (218psi) ÷ 300bar (4350psi)
Working temperature	-20°C ÷ +80°C
Material	Nickel-plated steel
Number of inversion at minute	200 max.
Inlet thread	G1/8" – UNI ISO 228/1
Outlet thread	G1/8" – UNI ISO 228/1
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 nPr – standard version mm [inch]				INLET nPr -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 [0.24]	24 [0.94]	132.3 [5.21]	20 [0.79]	5.5 [0.22]	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]

CONFIGURATION INFORMATION

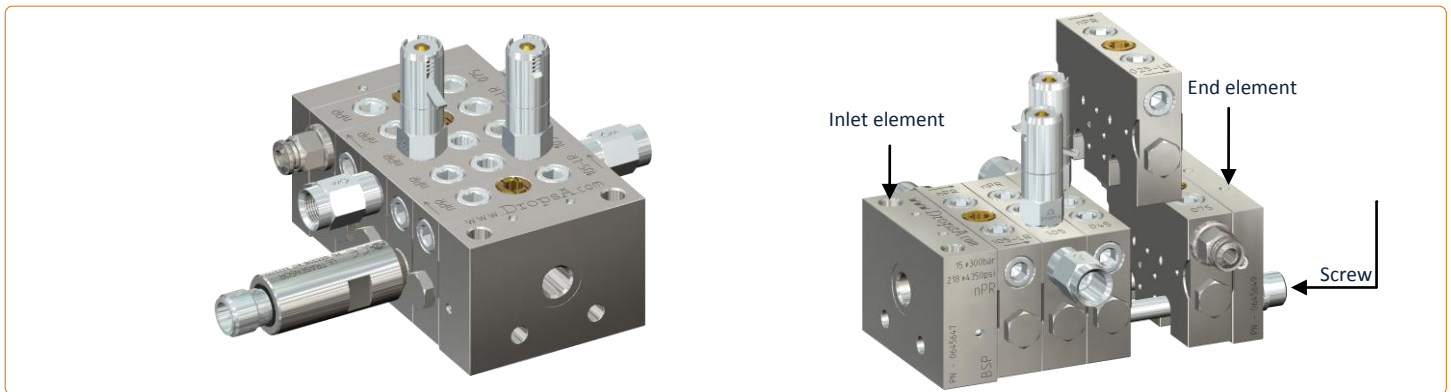
IN FEW STEPS YOU CAN COMPOSE DIFFERENT KIND OF MODULES AS YOU NEED:

1. INLET ELEMENT

2. DIVIDER ELEMENT

3. END ELEMENT

STANDARD ELEMENT	-S 20mm reduced	FLOWRATE Q.cm ³	STANDARD ELEMENT	ELEMENT WITH INDICATOR	BRIDGE ELEMENT			PART NO.
					LEFT	RIGHT	LEFT/ RIGHT	
0645647	0645648	0,025	0645650	0645678	0645654	0645658	0645662	0645749 + 0016047 (ø6 washer)
		0,045	0645651	0645679	0645655	0645659	0645663	
		0,075	0645652	0645680	0645656	0645660	0645664	
		0,105	0645653	0645681	0645657	0645661	0645665	

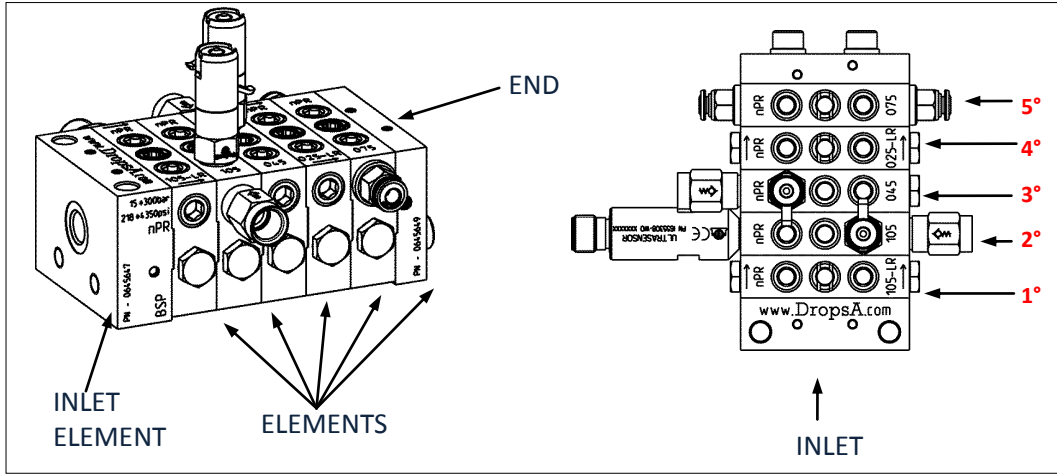


4. FITTINGS

ITEM	DESCRIPTION	PART 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)	3084577	
	200bar with memory pin	3290004		Push-in Ø4 (65bar)	3084578	
	250bar with memory pin	3290005		Push-in Ø6 (65bar)	3084696	
	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)	5119812
	50bar with pin	3290007			Ø4x1 Drawn steel tube (500bar)	5119832
	100bar with pin	3290008			ASTM Ø6x0,71 Copper steel tube (310bar)	5118001
	150bar with pin	3290009	ASTM Ø4x0,71 Copper steel tube (500bar)		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	0014396	
	150 bar with membrane	3290015		4 elements	0014181	
200 bar with membrane	3290016	5 elements		0014397		
250 bar with membrane	3290017	6 elements		0014182		
CYCLE INDICATOR	ULTRASENSOR + (M12 Connector)	1655308 + 0039999		7 elements	0014191	
				8 elements	0014398	
				9 elements	0014399	
				10 elements	0014400	
				11 elements	0014401	
				12 elements	0014402	

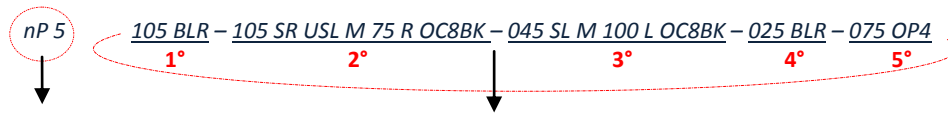
DESCRIPTION	PART N.	
Assembly Kit 3 elements	3140826	Each kit includes 2 screws, 2 washers, plugs and single outlet adaptors according to the number of elements.
Assembly Kit 4 elements	3140827	
Assembly Kit 5 elements	3140828	
Assembly Kit 6 elements	3140829	
Assembly Kit 7 elements	3140830	
Assembly 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	DESCRIZIONE	CODICE
WASHER (order 2 per assembly)	Ø6 WASHER	0016047
PLUG and ADAPTOR	Single outlet adaptor	0641708
	Plug 1/8 BSP	3232098



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:



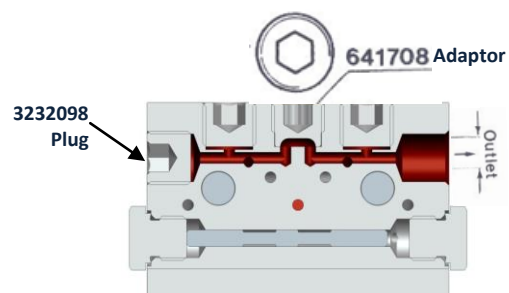
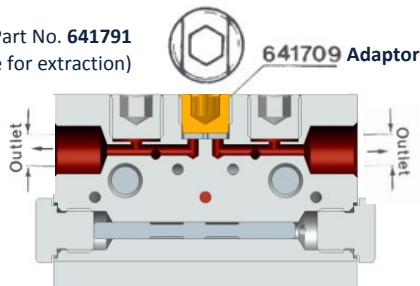
Config. INIZIAL and PACK		
TYPE	INLET	N° ELEMENTS
nP	Empty Standard Hole centers 42mm	3÷12
	S Reduced Hole center 20mm	

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 double the delivery of a single element by replacing the yellow Adapter Part No. 0641709 with the white Adapter Part No. 0641708 as shown in the drawing below. When converted into single, plug off the second outlet with a plug Part No. 3232098

O-ring Part No. 641791
(with hole for extraction)



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