

# Series NPM and NPR (non rotating) spring plungers

These spring plungers are used in situations where significant height differences of the workpiece have to be compensated for.

Thread size M3, M5, G1/8, G1/4, plunger stroke length from 5 to 75 mm.



- » Spring plungers with lower pressure for soft contact on delicate surfaces, and good compensation in height
- » Wide range of sizes with different stroke lengths covering a wide range of applications
- » Non rotating version available

**The spring plungers are used in situations where significant height differences of the workpieces have to be compensated for.**

**The spring provides furthermore a gentle approach towards the workpiece without further complex controls in fully automated system, which is important when handling sensitive workpieces.**

Applications:

- Handling of parts with different heights (for example curved metal sheets)
- Handling of a very fragile parts (for example glass sheets), or parts with a delicate surface

## GENERAL DATA

**Description** - spring plunger consisting of a high-strength steel rod  
 - guide sleeve  
 - lower spring  
 - threaded fitting (internal thread for suction pads until M5, otherwise external thread)

**CODING EXAMPLE**

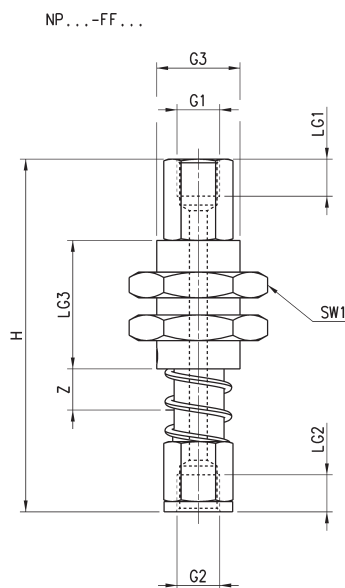
<b>NPM</b>	-	<b>FM</b>	-	<b>1/4</b>	-	<b>75</b>
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<b>NPM</b>	<p>SERIES          NPM = spring plunger          NPR = spring plunger - non-rotating</p>
<b>FM</b>	<p>THREAD VERSION          FM = female / male          FF = female / female</p>
<b>1/4</b>	<p>THREAD          M3 = M3          M5 = M5          1/8 = G1/8          1/4 = G1/4</p>
<b>75</b>	<p>COMPENSATION STROKE          05 = 5 mm          10 = 10 mm          15 = 15 mm          20 = 20 mm          25 = 25 mm          50 = 50 mm          75 = 75 mm</p>

## TECHNICAL DATA

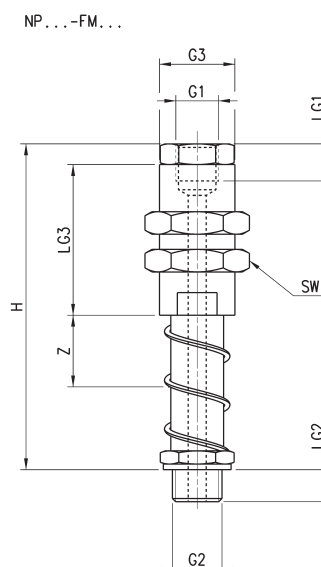
Mod.	Spring force (N/mm)	Spring force in rest position (N)	Spring force at half the stroke length (N)	Plunger stroke length (mm)	Max. vertical static load (N)	Max. horizontal static load (N)	Weight (g)
<b>NPM-FF-M3-05</b>	0,596	1,49	2,98	5	550	47	9
<b>NPM-FF-M5-05</b>	0,508	3,3	4,57	5	1500	132	16
<b>NPM-FF-M5-10</b>	0,323	2,75	4,36	10	1500	97	19
<b>NPM-FF-M5-20</b>	0,209	1,78	3,87	20	1500	63	25
<b>NPM-FM-1/8-15</b>	0,221	3,53	5,19	15	3700	385	80
<b>NPM-FM-1/8-25</b>	0,143	3,57	5,36	25	3700	283	90
<b>NPM-FM-1/8-50</b>	0,097	2,92	5,34	50	3700	173	110
<b>NPM-FM-1/4-25</b>	0,711	6,47	15,36	25	2400	747	145
<b>NPM-FM-1/4-50</b>	0,452	1,4	12,7	50	2400	466	175
<b>NPM-FM-1/4-75</b>	0,262	5,38	15,2	75	2400	340	190
<b>NPR-FF-M3-05</b>	0,596	1,49	2,98	5	550	47	9
<b>NPR-FF-M5-05</b>	0,508	3,30	4,57	5	1500	132	16
<b>NPR-FF-M5-10</b>	0,323	2,75	4,36	10	1500	97	19
<b>NPR-FF-M5-20</b>	0,209	1,78	3,87	20	1500	63	25
<b>NPR-FM-1/8-15</b>	0,221	3,53	5,19	15	3700	385	80
<b>NPR-FM-1/8-50</b>	0,097	2,92	5,34	50	3700	173	110
<b>NPR-FM-1/4-25</b>	0,711	6,47	15,36	25	2400	747	144
<b>NPR-FM-1/4-75</b>	0,262	5,38	15,20	75	2400	340	202

**NPM-NPR Female - Female Version**



DIMENSIONS									
Mod.	G1	G2	G3	H	LG1	LG2	LG3	SW1	Z
<b>NPM-FF-M3-05</b>	M3F	M3F	M6X0,75	33,5	3,8	6	10	10	5
<b>NPM-FF-M5-05</b>	M5F	M5F	G1/8	41,2	5,5	6,2	15	14	5
<b>NPM-FF-M5-10</b>	M5F	M5F	G1/8	47,2	5,5	6,2	15	14	10
<b>NPM-FF-M5-20</b>	M5F	M5F	G1/8	59,2	5,5	6,2	15	14	20
<b>NPR-FF-M3-05</b>	M3F	M3F	M6X0,75	33,5	3,8	6	10	10	5
<b>NPR-FF-M5-05</b>	M5F	M5F	G1/8	41,2	5,5	6,2	15	14	5
<b>NPR-FF-M5-10</b>	M5F	M5F	G1/8	47,2	5,5	6,2	15	14	10
<b>NPR-FF-M5-20</b>	M5F	M5F	G1/8	59,2	5,5	6,2	15	14	20

**NPM-NPR Female - Male Version**



DIMENSIONS									
Mod.	G1	G2	G3	H	LG1	LG2	LG3	SW1	Z
<b>NPM-FM-1/8-15</b>	G1/8	G1/8 M	M16X1	80	8	6,5	30	22	15
<b>NPM-FM-1/8-25</b>	G1/8	G1/8 M	M16X1	93	8	6,5	30	22	25
<b>NPM-FM-1/8-50</b>	G1/8	G1/8 M	M16X1	124	8	6,5	30	22	50
<b>NPM-FM-1/4-25</b>	G1/8	G1/4 M	M20X1,5	95	13	8,5	40	24	25
<b>NPM-FM-1/4-50</b>	G1/8	G1/4 M	M20X1,5	124,5	13	8,5	40	24	50
<b>NPM-FM-1/4-75</b>	G1/8	G1/4 M	M20X1,5	154	13	8,5	40	24	75
<b>NPR-FM-1/8-15</b>	G1/8	G1/8 M	M16X1	80	8	6,5	30	22	15
<b>NPR-FM-1/8-50</b>	G1/8	G1/8 M	M16X1	124	8	6,5	30	22	50
<b>NPR-FM-1/4-25</b>	G1/8	G1/4 M	M20X1,5	95	13	8,5	40	24	25
<b>NPR-FM-1/4-75</b>	G1/8	G1/4 M	M20X1,5	154	13	8,5	40	24	75