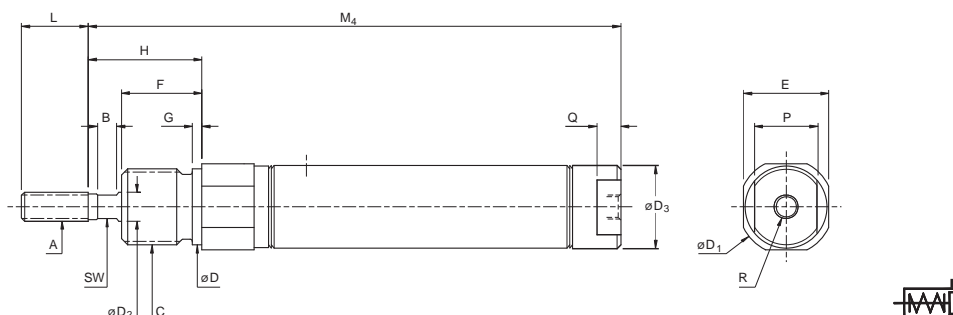


# Bimba ISO 6432 Air Cylinders

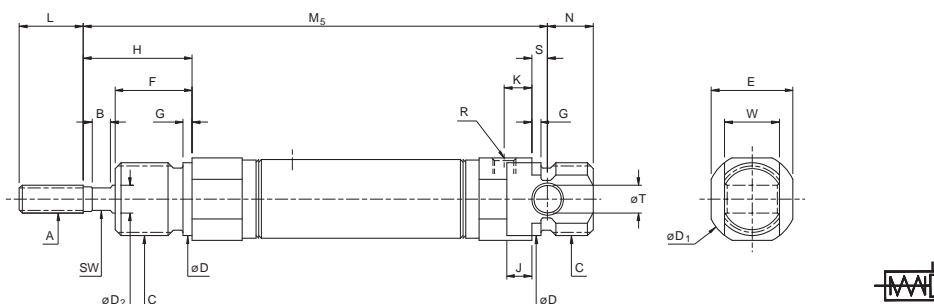
## Single Acting - Spring To Retract (ESZ)

The ESZ & ER series offer a heavier spring force than the ES, and the flexibility of strokes exceeding 50mm.

### NOSE MOUNT - N option

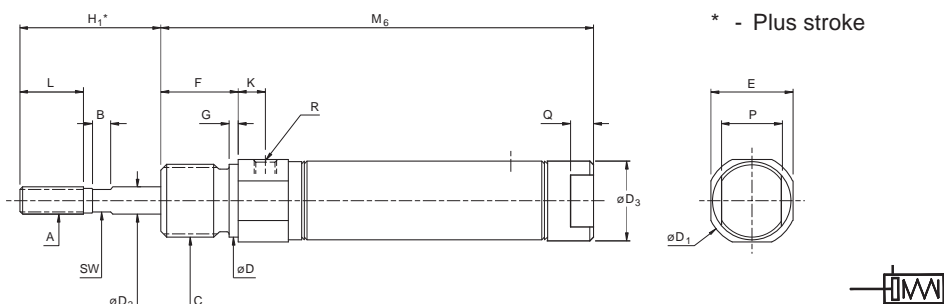


### UNIVERSAL MOUNT - U option

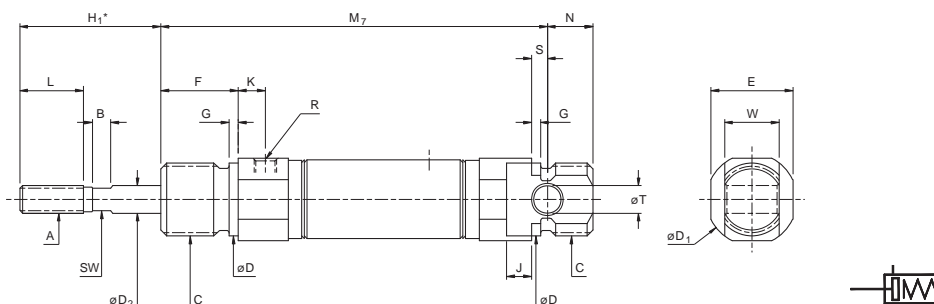


## Single Acting - Spring To Extend (ER)

### NOSE MOUNT - N option



### UNIVERSAL MOUNT - U option



See following page for dimensional tables

# Bimba ISO 6432 Air Cylinders

Bore	A <sup>6g</sup>	B	C <sup>6g</sup>	D	D <sub>1</sub>	D <sub>2</sub> <sup>h8</sup>	D <sub>3</sub>	E	F	G	H	H <sub>1</sub>	J	K	L	N	P	Q	R	S	T <sup>H9</sup>	W <sup>d13</sup>	SW
8	M4x0.7	-	M12x1.25	12	17	4	9	15	12	2	16	16	3	6	12	9	8	4	M5x0.8	3	4	8	-
10	M4x0.7	-	M12x1.25	12	17	4	11	15	12	2	16	16	3	6	12	9	10	5	M5x0.8	3	4	8	-
12	M6x1.0	4	M16x1.5	16	20	6	13	18	17	2	24	21	5.4	6	14	8	10	5	M5x0.8	3.6	6	12	5
16	M6x1.0	4	M16x1.5	16	20	6	17	18	17	2	24	21	5.5	6	14	10	13	5	M5x0.8	3.5	6	12	5
20	M8x1.25	4	M22x1.5	22	28	8	21	24	19	3	25	27	8	8	19	11	19	7	G1/8	4	8	16	6
25	M10x1.25	4	M22x1.5	22	30	10	26	27	22	3	30	28	6	8	20	11	22	8	G1/8	6	8	16	8

## Calculating Cylinder Lengths

In order to provide greater customer flexibility, Bimba ESZ and ER cylinders can be fitted with multiple springs. To calculate the length ("M" dimension), use the following formula based on the table below:

Example 1: ESZ-25-78-U

ESZ-25-\_-U Base length (M<sub>5</sub>) = 103mm

Multiplier = Stroke ÷ Increment = 78 ÷ 25 = 3.12

Multiplier = 3 (always round down)

Multiplier x Adder = 3 x 47 = 141mm

Add Base Length = 141 + 103 = 244

Add whole stroke increment:

Stroke – (Multiplier x 25) = 78 - 75 = 3

ESZ-25-78-U = 244 + 3 = 247

Example 2: ER-12-86-N

ER-12-86-N Base length (M<sub>6</sub>) = 60.2mm

Multiplier = Stroke ÷ Increment = 86 ÷ 12.5 = 6.88

Multiplier = 6 (always round up)

Multiplier x Adder = 6 x 29 = 174mm

Add Base Length = 174 + 60.2 = 234.2

Add whole stroke increment:

Stroke – (Multiplier x 12.5) = 86 - 75 = 11

ER-12-86-N = 234.2 - 11 = 223.2

ESZ - Single Acting, Rod To Retract				ER - Single Acting, Rod To Extend				
	M <sub>4</sub> (N)	M <sub>5</sub> (U)	Adder	Increment	M <sub>6</sub> (N)	M <sub>7</sub> (U)	Adder	Increment
8	63.8	71.3	20.8	12.5	51.5	59	20.8	12.5
10	57	63	24		53	59	29	
12	67.2	75.5	26.5		60.2	68.5	29	
16	72	82	48.5	25	65	75	49	25
20	81.5	93	46.5		75.5	87	49	
25	89	103	47		81	95	41.7	

## Spring Forces

ES (available up to 50mm stroke)				ESZ & ER		
Bore	Preload At Strokes (N)			Final Load (N)	Preload At 10mm Stroke (N)	Final Load (N)
	10mm	25mm	50mm			
8	5.1	4.2	2.6	5.7	1.8	8
10	5.1	4.2	2.6	5.7	3.1	8
12	5.8	4.4	3.1	6.2	4.9	16
16	5.8	4.4	3.1	6.2	8.9	22.7
20	20	16.5	11.1	22	12	31.7
25	28	23.1	15.6	31.1	12	39.2