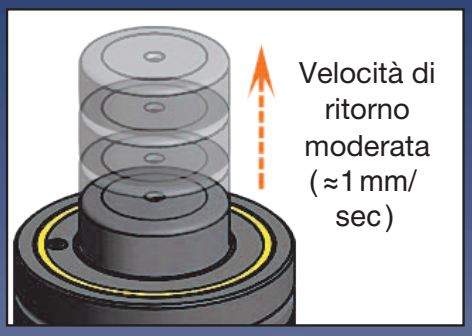
Bulletin No. B14116A

DADCO®

Molle a gas per stoccaggio stampi

Serie 90.10 DS

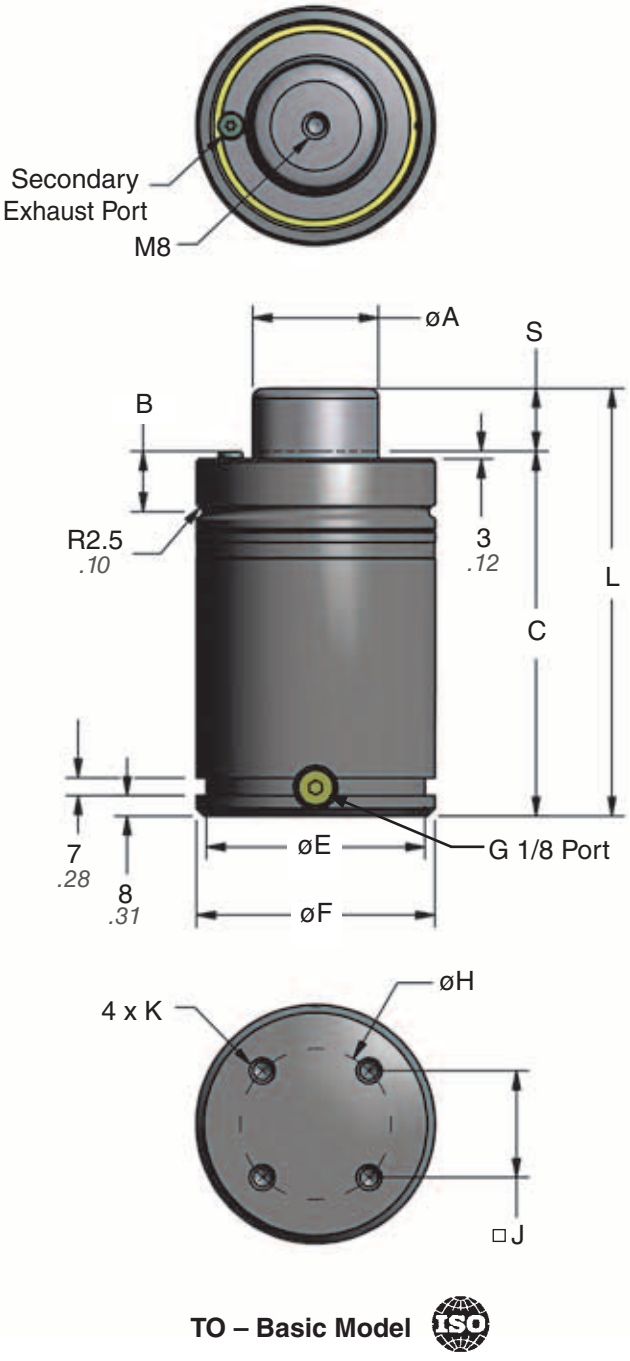


- Lunga durata della molla
- Minore temperatura di esercizio
- Direttamente intercambiabile con i modelli ISO

PED 2014/68/EU COMPLIANT

90.10 DS Series

DS Springs are designed specifically for die storage applications. The DS models return at a moderated speed, unlike standard gas springs that return at the speed of the ram. After the initial hit, only a small portion of the DS stroke is engaged during each press stroke resulting in reduced operating temperature, minimal wear, and longer spring life.



TO – Basic Model

Part No.	S mm *inch*	Model 03000 C	03000 L ±0.25 ±.010	05000 C	05000 L ±0.25 ±.010	07500 C	07500 L ±0.25 ±.010
90.10DS.____.050	50 *1.97*	170 *6.69*	220 *8.661*	190 *7.48*	240 *9.449*	205 *8.07*	255 *10.039*
90.10DS.____.080	80 *3.15*	200 *7.87*	280 *11.024*	220 *8.66*	300 *11.811*	235 *9.25*	315 *12.402*
90.10DS.____.100	100 *3.94*	220 *8.66*	320 *12.598*	240 *9.45*	340 *13.386*	255 *10.04*	355 *13.976*
90.10DS.____.125	125 *4.92*	245 *9.65*	370 *14.567*	265 *10.43*	390 *15.354*	280 *11.02*	405 *15.945*
90.10DS.____.160	160 *6.30*	280 *11.02*	440 *17.323*	300 *11.81*	460 *18.110*	315 *12.40*	475 *18.701*
90.10DS.____.200	200 *7.87*	320 *12.60*	520 *20.472*	340 *13.39*	540 *21.260*	355 *13.98*	555 *21.850*
90.10DS.____.250	250 *9.84*	370 *14.57*	620 *24.409*	390 *15.35*	640 *25.197*	405 *15.94*	655 *25.787*
90.10DS.____.300	300 *11.81*	420 *16.54*	720 *28.346*	440 *17.32*	740 *29.134*	455 *17.91*	755 *29.724*

Other stoke lengths available.

Model	03000	05000	07500
A	Ø50 *1.97*	Ø65 *2.56*	Ø80 *3.15*
B	24 *.94*	25.5 *1.00*	27.5 *1.08*
E	Ø87 *3.43*	Ø112 *4.41*	Ø142 *5.59*
F	Ø95 *3.740*	Ø120 *4.724*	Ø150 *5.906*
H	Ø60 *2.362*	Ø80 *3.150*	Ø100 *3.937*
J	42.4 *1.670*	56.6 *2.227*	70.7 *2.783*
K	M8 x 12 Deep *.47*	M10 x 16 Deep *.63*	M10 x 16 Deep *.63*

On-Contact Force				
Model No.	psi	lb.	bar	daN
90.10DS.03000	2175	6619	150	2945
90.10DS.05000		11187		4977
90.10DS.07500		16946		7540

Ordering Example:

90.10DS.05000.100. *TO*. *C*. *150*

Part Number:
Includes Series, Model and Stroke Length.

Mount Option:
TO = Basic Model.
When not specified, default is TO. Mounts ordered with cylinder will be attached at the factory.

Charging Pressure:
15-150 bar *(220-2175 psi). When not specified, default is 150 bar.*

Operating System:
C = Self-contained, F = Open Flow Fitting.
When not specified, default is C, self-contained.

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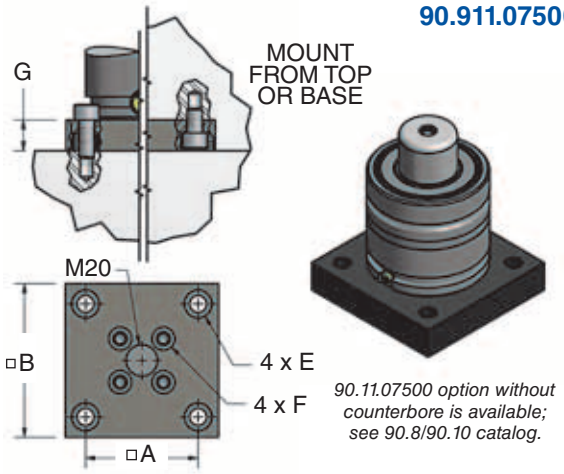
B11 / F11

90.11.03000 / 90.11.05000 / 90.911.07500

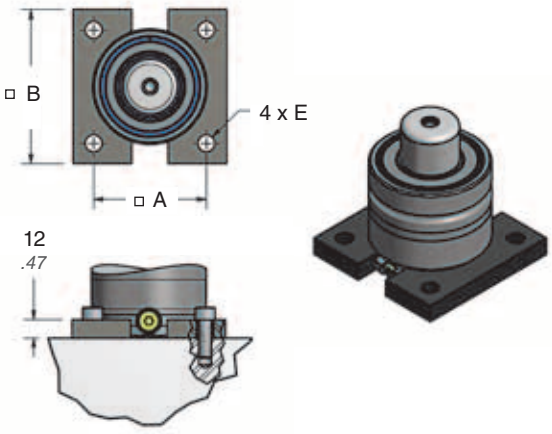


90.11.07500 option without counterbore is available; see 90.8/90.10 catalog.

Can Diameter	Part No.	A	B	E	F	G
ø95	90.11.03000	92 *3.622*	120 *4.72*	M12 SHCS *1/2˝*	M8 SHCS	20 *.79*
ø120	90.11.05000	109.5 *4.311*	140 *5.51*	M12 SHCS *1/2˝*	M10 SHCS	20 *.79*
ø150	90.911.07500	138 *5.433*	190 *7.48*	M16 SHCS *5/8˝*	M10 SHCS	25 *.98*

B12

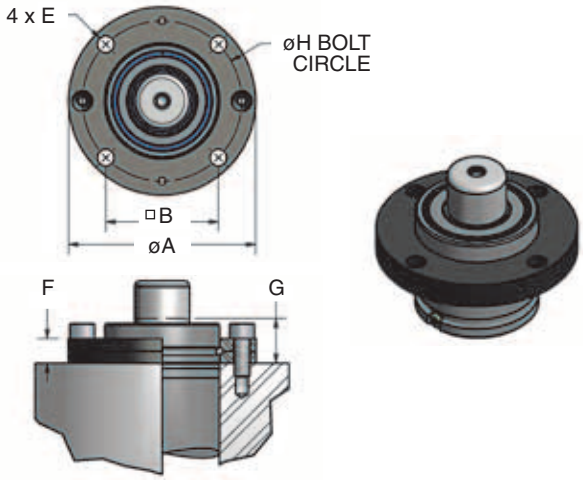
90.12.03000 / 90.12.05000 / 90.12.07500



Can Diameter	Part No.	A	B	E
ø95	90.12.03000	92 *3.622*	120 *4.72*	M12 SHCS *1/2˝*
ø120	90.12.05000	109.5 *4.311*	140 *5.51*	M12 SHCS *1/2˝*
ø150	90.12.07500	138 *5.433*	190 *7.48*	M16 SHCS *5/8˝*

B21

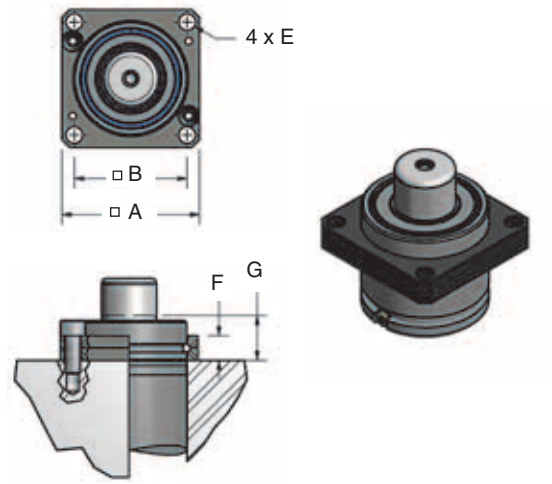
90.21.03000 / 90.21.05000 / 90.21.07500



Can Diameter	Part No.	A	B	E	F	G	H
ø95	90.21.03000	150 *5.90*	92 *3.622*	M12 SHCS *1/2˝*	18 *.71*	33 *1.30*	130 *5.118*
ø120	90.21.05000	175 *6.89*	109.5 *4.311*	M12 SHCS *1/2˝*	21 *.83*	36 *1.42*	155 *6.102*
ø150	90.21.07500	220 *8.66*	138 *5.433*	M16 SHCS *5/8˝*	27 *1.06*	41 *1.61*	195 *7.677*

B25

90.25.03000 / 90.25.05000 / 90.25.07500



Can Diameter	Part No.	A	B	E	F	G
ø95	90.25.03000	110 *4.33*	92 *3.622*	M12 SHCS *1/2˝*	18 *.71*	33 *1.30*
ø120	90.25.05000	130 *5.12*	109.5 *4.311*	M12 SHCS *1/2˝*	21 *.83*	36 *1.42*
ø150	90.25.07500	162 *6.38*	138 *5.433*	M16 SHCS *5/8˝*	27 *1.06*	41 *1.61*

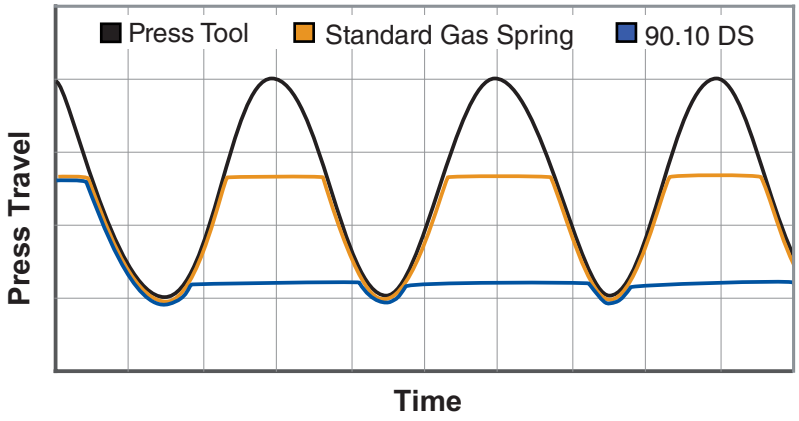
Ordering Example:

Cylinder with Mount: 90.10DS.05000.100.B12.C.150 **Mount Only:** 90.12.05000

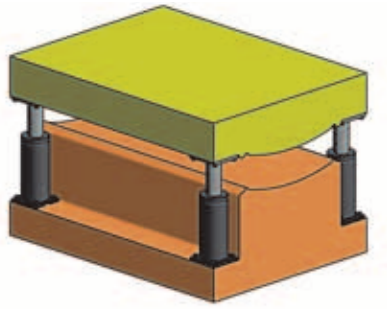
Welded mounts available, contact DADCO for more information.

Technical Data

The 90.10 DS nitrogen gas springs are designed with a reduced rate of return (≈1 mm/sec) making them an ideal choice for die separation. Following the initial contact, only a small portion of the 90.10 DS total stroke length is engaged during each cycle. The reduced travel per cycle results in lower overall operating temperature and decreased wear on the gas spring and press components.

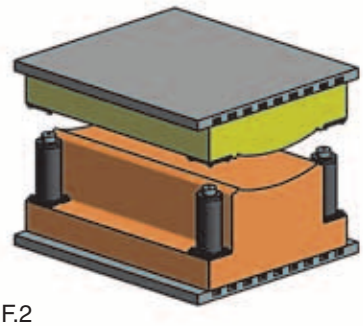


Application Examples

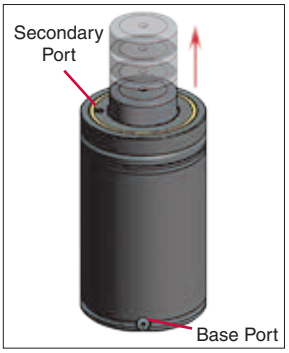


F.1

DADCO recommends using 90.10 DS cylinders in each corner of the die for well balanced die separation (F.1.). 90.10 DS cylinders are a direct replacement for traditional die storage components and do not need to be removed from the die before installation into the press. When installed in corners, striker plates provide a flat, hardened surface for impact. Refer to the Recommended Max Lifting Load table below to verify the load does not exceed the recommended limit.



F.2



During operation 90.10 DS cylinders return at a slower rate than traditional gas springs (F.2.). Before servicing the die, verify rods are fully extended (may take up to 3 minutes). **If rods do not fully extend, gas spring requires service. Pressure must be exhausted at the Base Port before venting the Secondary Port. For more information contact DADCO.**

Recommended Max Lifting Load

Model	03000		05000		07500	
# of Units	kg	lb.	kg	lb.	kg	lb.
4	9600	21180	16230	35790	24600	54220
6	14410	31770	24350	53690	36890	81340

Operating Specifications

Charging Medium:	Nitrogen Gas
Charging Pressure Range:	15 - 150 bar *(220 - 2175 psi)*
Operating Temperature:	4°C - 71°C *(40°F - 160°F)*
Maximum Speed:	1.6 m/sec (*63 in/sec*)

CAUTION

- Slow return stroke: may take 3 minutes for full rod extension.
- DO NOT attempt maintenance on spring until internal pressure is exhausted.
- Exhaust pressure at Base Port first.
- Release any remaining pressure from Secondary Port to verify complete exhaust.

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