Non-Adjustable Series Hydraulic Shock Absorbers

TK Micro-Bore Series, STH Series

ITT Enidine non-adjustable micro-bore hydraulic shock absorbers can accommodate varying energy conditions. This family of tamperproof shock absorbers provides consistent performance, cycle after cycle. Non-adjustable models are designed to absorb maximum energy within a compact envelope size.

The **TK Series** is a versatile, miniature design which provides effective, reliable deceleration and vibration control for light loads. Models can accommodate a wide range of operating conditions.

The ITT Enidine **STH Series** offers the highest energy absorption capacity relative to its size. These custom-orificed shock absorbers are designed to meet exact application requirements. STH Series shock absorbers are available in fully threaded cylinder bodies, providing flexibility in mounting configurations.

Features and Benefits

- Extensive non-adjustable product line offers flexibility in both size and energy absorption capacity to fulfill a wide range of application requirements.
- Tamperproof design ensures repeatable performance.
- Special materials and finishes can be designed to meet specific customer requirements.
- Incorporating optional fluids and seal packages can expand the standard operating temperature range from (–10°C to 80°C) to (–30°C to 100°C).
- Threaded cylinders provide mounting flexibility and increase surface area for improved heat dissipation.
- A select variety of surface finishes maintains original quality appearance and provides the longest corrosion resistance protection.
- ISO quality standards result in reliable, long-life operation.

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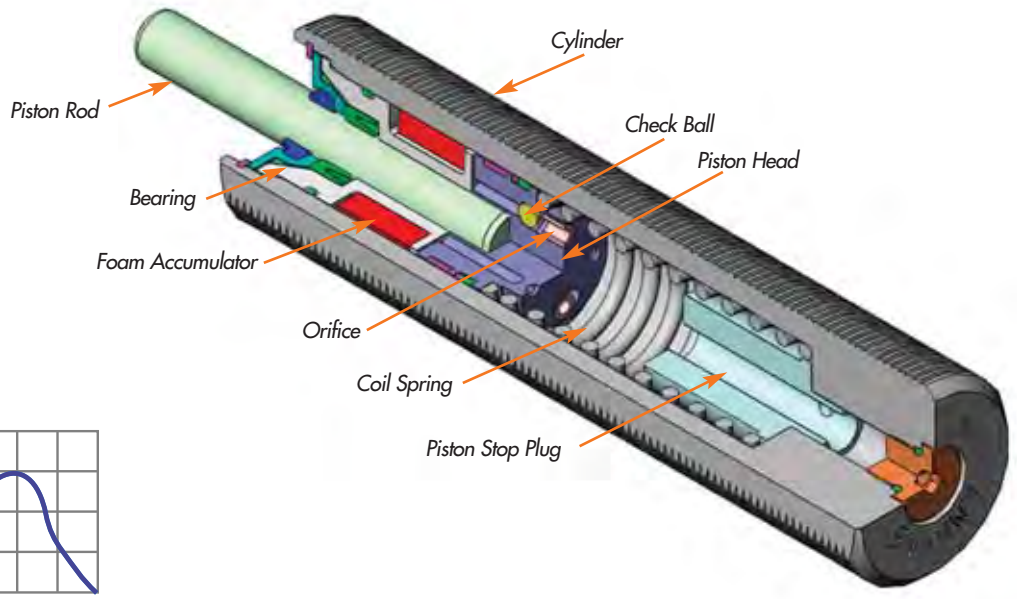
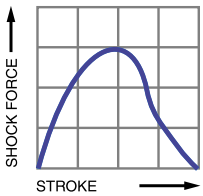
ITT Enidine Non-Adjustable Single-Orifice Shock Absorbers





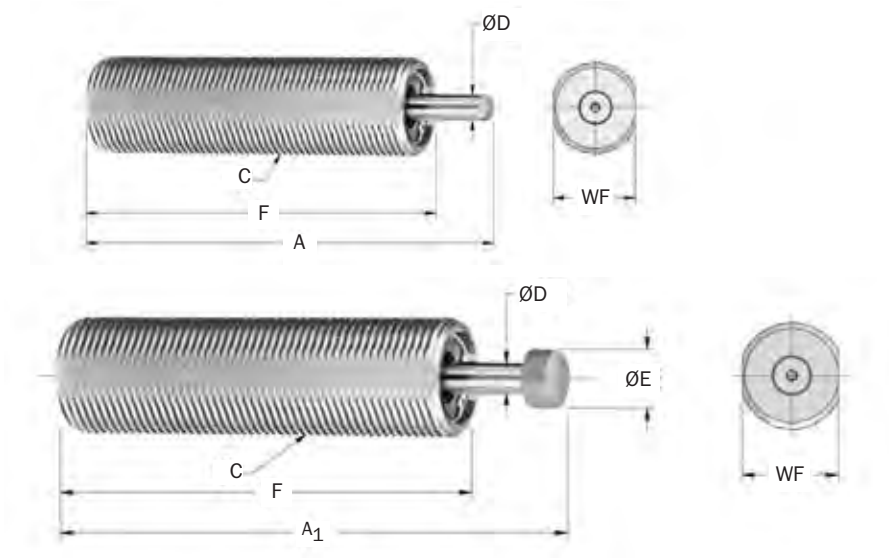
Constant orifice area damping (dashpot) provides the largest shock force at the beginning of the stroke when impact velocity is highest. These shock absorbers provide high-energy absorption in a small, economical design.

The internal structure of a single orifice shock absorber is shown above. When a force is applied to the piston rod, the check ball is seated and the valve remains closed. Oil is forced through the orifice, creating internal pressure allowing smooth, controlled deceleration of the moving load. When the load is removed, the compressed coil spring moves to reposition the piston head, the check ball unseats, opening the valve that permits rapid return of the piston head rod to the original extended position.

The closed cellular foam accumulator is compressed by the oil during the stroke, compensating for fluid displaced by the piston rod during compression. Without the fluid displacement volume provided by the foam accumulator, the closed system would be hydraulically locked.

Single-orifice shock absorbers provide constant orifice area (dashpot) damping.

Custom Orificed Products



Catalog No./ Model	S Stroke mm	E_T Max. Nm/c	E_TC Max. Nm/hr	F_P Max. Reaction Force N	Nominal Coil Spring Force		Mass g
					Extended N	Compressed N	
Δ STH .25M	6,0	11	4 420	2 730	11	18	79
Δ STH .5M	12,5	65	44 200	8 000	18	31	218
Δ STH .75M	19,0	245	88 400	19 600	35	90	500
Δ STH 1.0M	25,0	500	147 000	29 800	98	235	726
Δ STH 1.0M x 2	50,0	1 000	235 000	29 800	66	133	862
Δ STH 1.5M x 1	25,0	1 150	250 000	65 000	90	227	1 400
Δ STH 1.5M x 2	50,0	2 300	360 000	65 000	56	227	1 800

Notes: 1. Custom orificed application data needed.
2. All shock absorbers will function at 5% of their rated energy per cycle. If less than 5%, a smaller model should be specified.
3. ITT Enidine recommends a positive stop to prevent bottoming of the shock absorber.
4. Δ = Non-standard lead time items, contact ITT Enidine.

Catalog No./ Model	A mm	A_1 mm	C	D mm	E mm	F mm	WF
Δ STH .25M	–	71,0	M14 x 1,0	4,8	12,7	51,0	13,0
Δ STH .5M	–	89,0	M22 x 1,5	5,6	9,5	68,5	20,0
Δ STH .75M	–	130,0	M30 x 2,0	8,0	14,3	103,0	27,0
Δ STH 1.0M	–	170,0	M36 x 1,5	9,5	17,5	136,5	32,0
Δ STH 1.0M x 2	–	238,2	M36 x 1,5	9,5	17,5	178,3	32,0
Δ STH 1.5M x 1	180,0	–	M45 x 1,5	16,0	–	154,0	42,0
Δ STH 1.5M x 2	270,0	–	M45 x 1,5	16,0	–	219,0	42,0

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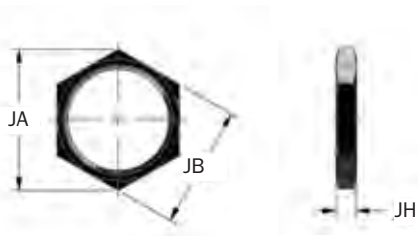
TK Micro-Bore Series, STH Series

TK 10M → STH 1.5M x 2 Series

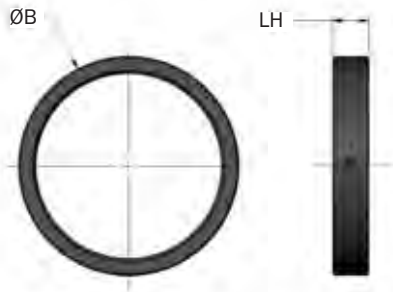
Accessories

Jam Nut (JN)



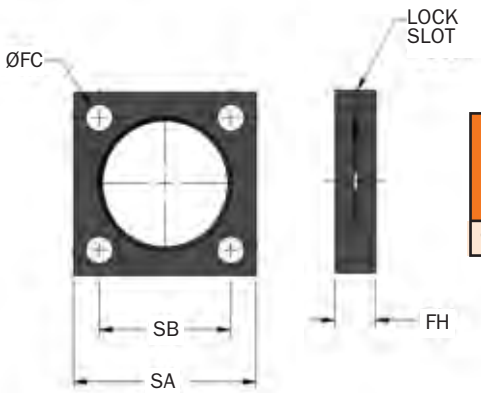
Catalog No./ Model	Part Number	Model Ref	JA mm	JB mm	JH mm	Mass g
JN M10 x 1	J24421167	TK10M/TK21M	15,0	13,0	3,2	2,8
JN M14 X 1	J24950035	STH .25M	19,7	17,0	4,0	3
JN M22 X 1.5	J26402167	STH .5M	31,5	27,0	5,5	12
JN M30 X 2	J30583167	STH .75M	41,6	36,0	7,0	26
JN M36 X 1.5	J23164035	STH 1.0M	41,6	36,0	7,0	26

Lock Ring (LR)



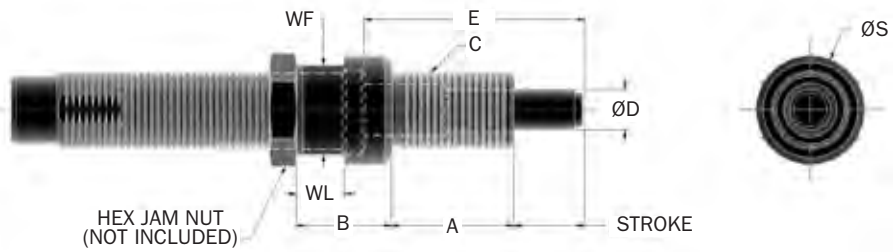
Catalog No./ Model	Part Number	Model Ref	B mm	LH mm	Mass g
LR M45 x 1.5	F88637049	STH 1.5 Series	57,2	9,5	75

Square Flange (SF)



Catalog No./ Model	Part Number	Model Ref	FC mm	FH mm	SA mm	SB mm	Bolt Size mm	Mass g
SF M45 X 1.5	M48637129	STH 1.5 Series	8,6	12,7	57,2	41,3	M8	142

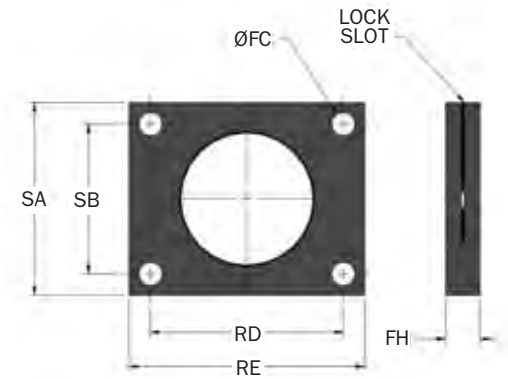
Side Load Adapter (SLA)



Catalog No./ Model	Part Number	Model Ref	Stroke mm	A mm	B mm	C	D mm	E mm	S mm	WF mm	WL mm
Δ SLA 10MF	SLA 33457	TK 10M/TK 21M	6,9	12	11	M10 x 1	5,0	21,6	13,0	11,0	4,0

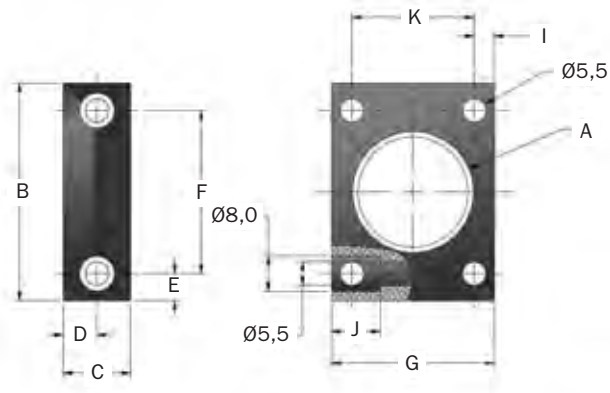
Notes: 1. Maximum sideload angle is 30°.
2. Δ = Non-standard lead time items, contact ITT Enidine.

Rectangular Flange (RF)



Catalog No./ Model	Part Number	Model Ref	A mm	FC mm	FH mm	RD mm	RE mm	SA mm	SB mm	Bolt Size mm	Mass g
RF M45 x 1.5	M58637053	STH 1.5 Series	M45 x 1,5	8,6	12,7	60,5	76,2	57,2	41,3	M8	255

Universal Retaining Flange (UF)



Catalog No./ Model	Part Number	Model Ref	A	B mm	C mm	D mm	E mm	F mm	G mm	H mm	J mm
UF M10 x 1	U16363189	TK 10M(B)/TK21M	M10 x 1	38,0	12,0	6,0	6,25	25,5	25	12,5	5

Note: All dimensions in millimeters.