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ERD
RUPTURE DISC

EXTRUDER RUPTURE DISC (ERD) SERIES

RUPTURE DISC

The Fike Extruder Rupture Disc (ERD) is a pressure relief device primarily designed for overpressure protection of plastic extrusion processes. Each ERD device typically consists of a threaded tubular body with a rupture disc soldered or welded to the process end. It is necessary that the rupture disc of an extruder pressure relieving device be mounted flush with the inner wall of the extruder barrel (see figure 1). Another configuration, or improperly designed device, would present a pocket area for product build-up and hardening that could render the device totally ineffective (see figure 2).

ERD applications are unique. Each requires a specific combination of dimensions, threading and body configuration. Fike presently has an extensive line of standard ERD devices to select from or adapt, as well as the capabilities to design and manufacture to customer specifications.

The ERD device is normally mounted directly to the extruder through a pressure port or thermocouple well where critical pressures are experienced. Standard burst diameters available range from 3/16" (DN 4.5) to 1 3/4" (DN 45). Larger sizes, up to 6" (DN 150) in diameter, have been provided on a special order basis.

The minimum burst pressure available for a 3/16" (DN 4.5) diameter ERD is 1500 psig (104 barg). Maximum available burst pressures are 12,000 psig (830 barg) at 800°F (425°C) for soldered units. Higher pressures and temperature ratings may be achieved with a welded design. ERD burst pressures are subject to a standard +6% to -3% manufacturing design range and a ±5% rupture tolerance. Reduced ranges are available upon request.

Standard materials of construction are stainless steel for the body and Inconel® 600 for the rupture disc. Other materials are available upon request.

When ordering ERD devices specify: Body configuration, body dimensions with thread specifications (refer to figure 3 for required dimensions and thread specifications), required burst pressure at the coincident temperature, operating pressure and temperature. When reordering, specify the lot number or part number of the unit being replaced or repaired.



FIGURE 1

Extruder Wall

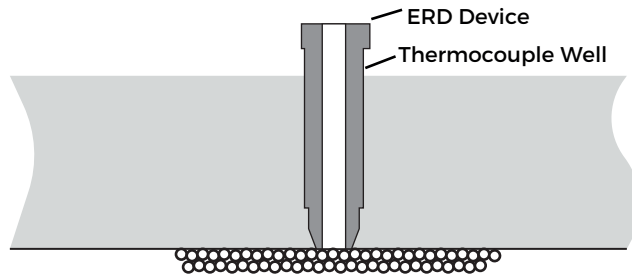


FIGURE 2

Improper Design

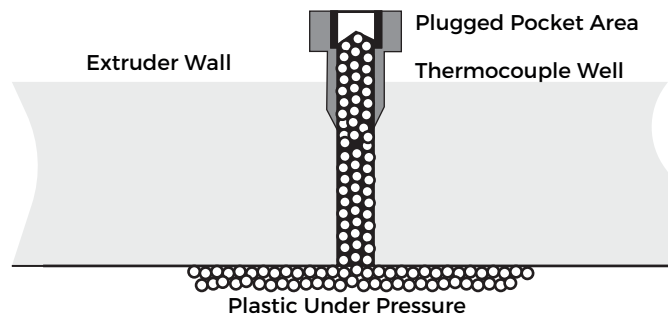
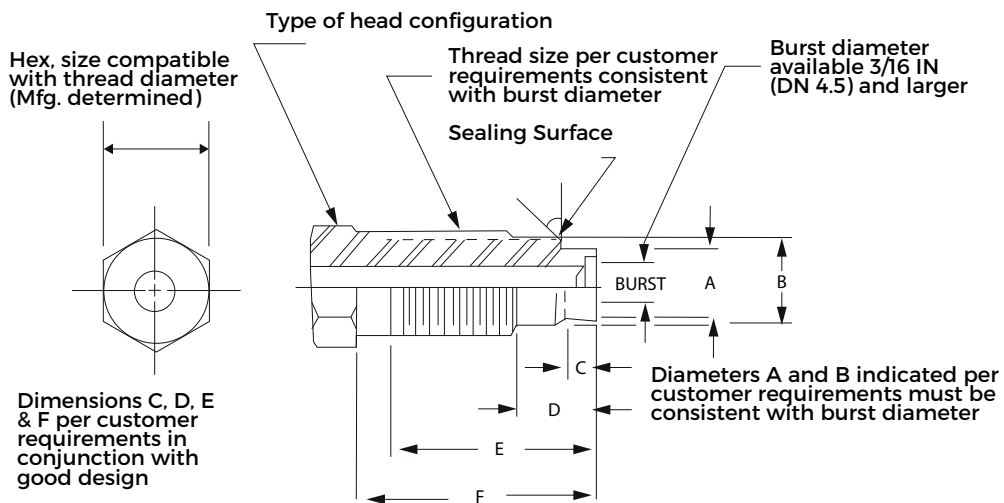


FIGURE 3



STOCKED SOLDER-TYPE EXTRUDER CONFIGURATIONS

Burst Diameter (IN)	Head Configuration	Thread Size	A	B	C	D	E	F	X	OAL	Body Material	ERD Part Number Series	BODY Style P/N
3/16	SCREWDRIVER SLOT	½ - 20 UNF	0.310	0.430	0.266	0.50	1.56	N/A	45	1.81	304 SST	A2319-X	A2319-1
3/16	HEX	½ - 20 UNF	0.312	0.421	0.250	0.44	1.94	6.00	45	6.50	304 SST	A2586-X	A2586-1
3/16	HEX with ¼ MNPT	½ - 20 UNF	0.307	0.425	0.223	0.63	2.63	5.25	45	6.00	304 SST	A2839-X	A2839-71
3/16	HEX	½ - 20 UNF	0.310	0.414	0.250	0.44	1.94	11.50	45	12.00	304 SST	A3145-X	A3145-71
3/16	HEX	½ - 20 UNF	0.310	0.414	0.250	0.44	1.94	2.50	45	3.00	304 SST	A3145-X	A3145-79
3/16	HEX	½ - 20 UNF	0.310	0.414	0.250	0.44	1.94	5.50	45	6.00	304 SST	A3145-X	A3145-70
3/16	HEX with ¼ MNPT	½ - 20 UNF	0.307	0.415	0.223	0.63	2.63	5.25	45	6.00	304 SST	A3172-X	A3172-70
3/16	HEX	½ - 20 UNF	0.310	0.430	0.266	0.50	1.56	3.56	45	3.81	304 SST	A4045-X	A4045-70
3/16	SCREWDRIVER SLOT	½ - 20 UNF	0.310	0.420	0.266	0.50	1.56	N/A	45	1.81	304 SST	A4310-X	A4310-70R
3/16	WRENCH FLATS	½ - 20 UNF	0.310	0.421	0.220	0.44	1.68	8.75	45	10.00	304 SST	A4356-X	A4356-70
3/16	HEX with ¼ MNPT	½ - 20 UNF	0.307	0.425	0.223	0.63	2.63	3.50	45	4.25	304 SST	A4369-X	A4369-70
3/16	HEX with ¼ MNPT	½ - 20 UNF	0.310	0.414	0.250	0.44	1.94	5.50	45	6.25	304 SST	A4969-X	A4969-71
3/16	HEX with ¼ MNPT	½ - 20 UNF	0.310	0.414	0.250	0.44	1.94	7.50	45	8.25	304 SST	A4969-X	A4969-72

HOW TO SPECIFY

Previous Lot Number	
Or ERD Part Number	

OR

Fike Body Style P/N	
Burst Pressure	
Coincident Temperature	

OR

Burst Diameter	
Head Configuration	
Thread Size	
A	
B	
C	
D	
E	
F	
X	
OAL	
Body Material	
Disc Material	
Burst Pressure	
Coincident Temperature	
Type (Solder/Welded)	