



Fike Thermal Hydraulic Tubing Drains provide a positive method to equalize the fluid level in tubing strings without mechanical manipulation. The rupture disc assembly contains a 7/8" opening area. Appropriate production practices include the Thermal Hydraulic Tubing Drain as standard equipment in all wells to eliminate the potential hazards associated with pulling wet tubing strings.

Features

- **Provides a positive indication of open drain**
- **Eliminates shear pin devices**
- **Provides the highest accuracy and reliability**
- **Resists corrosion**
- **One plug, available in three pressures for all tubing sizes, lowers inventory and cost**
- **Eliminates mechanical moving parts**
- **Eliminates fragile O-rings damaged during assembly causing failure in the field**

Operation

The Thermal Hydraulic Tubing Drain is simple in design and utilizes applied hydraulic pressure to rupture the membrane, which opens the fluid port to the casing annulus, with no restrictions. The Thermal Hydraulic Tubing Drain should be installed box up and pin down at the desired depth in the tubing string. For hydrostatic head at the drain, and determination of the proper disc pressure (psi), multiply 0.433 psi/ft by the drain depth. Then select the disc with an additional 2,000 psi above the nominal fluid load.

Note : Disc Selection is calculated from pressure differential.

Sizes

The Thermal Hydraulic Tubing Drain is available in the following standard nominal sizes, using standard API EUE tubing threads. Non-Standard configurations are available on an engineered design basis. Full tubing inside diameters is standard on all nominal (stock) sizes.

Hydraulic Tubing Drain

Nominal Size		Outside Diameter		Drift Diameter		Total Length		Part Number
in	mm	in	mm	in	mm	in	mm	
2-3/8	60	3-1/16	78	1.901	48	7	178	A8327-1
2-3/8	60	3-5/8	92	1.901	48	7-1/4	184	A8327-4
2-7/8	73	3-5/8	92	2.347	60	7-1/2	191	A8327-2
2-7/8	73	4	102	2.347	60	7-3/4	197	A8327-5
3-1/2	89	4-1/2	114	2.867	73	8-1/8	206	A8327-3
4	102	5	127	3.351	85	8-3/8	213	A8327-6
4-1/2	114	5-9/16	141	3.833	97	8-5/8	219	A8327-7

Burst Pressures

(All of the sizes listed above are available in each of the following opening pressures)

Nominal Size		Part Number	Burst Pressure		Part Number
psig	atm		in	mm	
1,500	102	A8219-1	4,500	306	A8219-4
2,000	136	A8219-5	5,000	340	A8219-8
2,500	170	A8219-2	5,500	374	A8219-9
3,000	204	A8219-6	6,000	408	A8219-10
3,500	238	A8219-3	6,500	442	A8219-11
4,000	272	A8219-7	7,000	476	A8219-12

Burst Pressure/Temperature Conversion Table

(Theoretical calculation of temperature vs. burst pressures)

72°F psig	100°F psig	200°F psig	300°F psig	400°F psig	500°F psig
1,500	1,488	1,428	1,410	1,395	1,407
2,000	1,984	1,904	1,880	1,860	1,876
2,500	2,480	2,308	2,350	2,325	2,345
3,000	2,976	2,856	2,820	2,790	2,814
3,500	3,472	3,332	3,290	3,255	3,283
4,000	3,968	3,808	3,760	3,720	3,752
4,500	4,464	4,284	4,230	4,185	4,221
5,000	4,960	4,760	4,700	4,650	4,690
5,500	5,456	5,236	5,170	5,115	5,159
6,000	5,952	5,712	5,640	5,580	5,628
6,500	6,448	6,188	6,110	6,045	6,097
7,000	6,944	6,664	6,580	6,510	6,566