

DISCHARGE CAPACITY CHART (BTS-10) SATURATED STEAM - WITHOUT OVER PRESSURE

Valve Size	20X25	20X25	25X25	25X25	25X40	25X40	40X50	50X50
Orifice Designation	E	F	E	F	E	F	F	F
Orifice (seat) Dia. mm	12.7	19	12.7	19	12.7	19	19	19
Area cm ²	1.2645	2.83385	1.2645	2.83385	1.2645	2.83385	2.83385	2.83385
Set Pres.Kg/cm ² (g)	Discharge Capacity kg/hr - Constant - 24							
1.00	61.1	137.0	61.1	137.0	61.1	137.0	137.0	137.0
1.50	76.0	170.3	76.0	170.3	76.0	170.3	170.3	170.3
2.00	90.9	203.7	90.9	203.7	90.9	203.7	203.7	203.7
3.00	120.6	270.3	120.6	270.3	120.6	270.3	270.3	270.3
3.50	135.5	303.7	135.5	303.7	135.5	303.7	303.7	303.7
4.00	150.4	337.0	150.4	337.0	150.4	337.0	337.0	337.0
5.00	180.2	403.7	180.2	403.7	180.2	403.7	403.7	403.7
5.50	195.0	437.1	195.0	437.1	195.0	437.1	437.1	437.1
6.00	209.9	470.4	209.9	470.4	209.9	470.4	470.4	470.4
7.00	239.7	537.1	239.7	537.1	239.7	537.1	537.1	537.1
7.50	254.6	570.5	254.6	570.5	254.6	570.5	570.5	570.5
8.00	269.4	603.8	269.4	603.8	269.4	603.8	603.8	603.8
8.50	284.3	637.2	284.3	637.2	284.3	637.2	637.2	637.2
9.00	-	670.5	-	670.5	-	670.5	670.5	670.5
10.00	-	737.2	-	737.2	-	737.2	737.2	737.2
10.25	-	753.9	-	753.9	-	753.9	753.9	753.9
10.54	-	773.2	-	773.2	-	773.2	773.2	773.2
11.00	-	803.9	-	803.9	-	803.9	803.9	803.9
11.25	-	820.6	-	820.6	-	820.6	820.6	820.6
12.00	-	870.6	-	870.6	-	870.6	870.6	870.6
12.50	-	904.0	-	904.0	-	904.0	904.0	904.0

1- Discharge Capacity Calculation as per IBR Formula

$$E = CAP = 24 \times \text{Area} \times ((\text{Set Pressure} \times 0.980) + 1.033)$$

2- Constant (C) Standard by IBR is '24'

C = Constant 24 A = Area in cm² P = Set Pressure in kg/cm²(g) E = Discharge Capacity in kg/hr