TOSACA
Safety relief valves

CAPACITIES
CAUDALES

E 2016

Model 1216

Capacity AIR / *Caudal de aire* (kg/h)

TOSACA
Safety relief valves

Set Press	Orifice / *Orificio* (mm)										
(barg)	**6**	**9**	**13**	**14**	**15**	**16**	**18**	**20**	**22**	**28**	**32**
0,2	16	37	76	89	102	116	146	181	219	354	462
0,5	21	46	97	112	129	147	186	229	277	449	586
1	28	63	131	152	174	198	251	310	375	607	793
2	42	95	199	231	265	301	381	471	570	923	1.205
3	57	128	267	310	355	404	512	632	765	1.239	1.618
4	71	161	335	389	446	508	642	793	960	1.555	2.030
5	86	193	403	468	537	611	773	954	1.155	1.870	2.443
6	100	226	471	547	627	714	904	1.115	1.350	2.186	2.856
7	115	259	539	626	718	817	1.034	1.277	1.545	2.502	3.268
8	129	291	607	705	809	920	1.165	1.438	1.740	2.818	3.681
9	144	324	676	784	899	1.023	1.295	1.599	1.935	3.134	4.093
10	158	356	744	862	990	1.127	1.426	1.760	2.130	3.450	4.506
11	173	389	812	941	1.081	1.230	1.556	1.921	2.325	3.766	4.919
12	187	422	880	1.020	1.171	1.333	1.687	2.083	2.520	4.082	5.331
13	202	454	948	1.099	1.262	1.436	1.817	2.244	2.715	4.398	5.744
14	216	487	1.016	1.178	1.353	1.539	1.948	2.405	2.910	4.714	6.157
15	231	520	1.084	1.257	1.443	1.642	2.079	2.566	3.105	5.029	6.569
16	245	552	1.152	1.336	1.534	1.745	2.209	2.727	3.300	5.345	6.982
17	260	585	1.220	1.415	1.625	1.849	2.340	2.888	3.495	5.661	7.394
18	274	618	1.288	1.494	1.715	1.952	2.470	3.050	3.690	5.977	7.807
19	289	650	1.357	1.573	1.806	2.055	2.601	3.211	3.885	6.293	8.220
20	303	683	1.425	1.652	1.897	2.158	2.731	3.372	4.080	6.609	8.632
22	332	748	1.561	1.810	2.078	2.364	2.992	3.694	4.470	7.241	9.457
24	361	813	1.697	1.968	2.259	2.571	3.253	4.017	4.860	7.873	10.283
26	391	879	1.833	2.126	2.441	2.777	3.515	4.339	5.250	8.504	11.108
28	420	944	1.969	2.284	2.622	2.983	3.776	4.661	5.640	9.136	11.933
30	449	1.009	2.106	2.442	2.803	3.190	4.037	4.984	6.030	9.768	12.758
32	478	1.074	2.242	2.600	2.985	3.396	4.298	5.306	6.420	10.400	13.584
34	507	1.140	2.378	2.758	3.166	3.602	4.559	5.628	6.810	11.032	14.409
36	536	1.205	2.514	2.916	3.347	3.808	4.820	5.951	7.200	11.664	15.234
38	565	1.270	2.650	3.074	3.529	4.015	5.081	6.273	7.590	12.295	16.059
40	594	1.336	2.787	3.232	3.710	4.221	5.342	6.595	7.981	12.927	16.884
50	739	1.662				5.253	6.648	8.207	9.931		
60	884	1.988				6.284	7.953	9.819	11.881		
70	1.029	2.315				7.316	9.259	11.431	13.831		
80	1.174	2.641				8.347	10.564	13.043	15.781		
90	1.319	2.967				9.379	11.870	14.654	17.732		
100	1.464	3.294				10.410	13.175	16.266	19.682		
120	1.754	3.947									
140	2.044	4.599									
160	2.334	5.252									
180	2.624	5.905									
200	2.915	6.558									
220	3.205	7.210									
240	3.495	7.863									
260	3.785	8.516									
280	4.075	9.169									
300	4.365	9.822									

E 2016

Flow capacity / *Caudal de aire* (kg/h)
Overpressure / *Sobrepresión 10%*
Temperature / *Temperatura* 20º C
Calculation according / *Calculos según* ISO EN 4126-1 / API 520

Model 1216

Capacity AIR / *Caudal de aire* (Nm^3/h)

TOSACA
Safety relief valves

Set Press	Orifice / *Orificio* (mm)										
(barg)	**6**	**9**	**13**	**14**	**15**	**16**	**18**	**20**	**22**	**28**	**32**
0,2	13	28	59	69	79	90	113	140	169	274	359
0,5	16	36	75	87	100	114	144	178	215	348	454
1	22	49	101	118	135	154	194	240	290	470	614
2	33	74	154	179	205	234	296	365	442	715	934
3	44	99	207	240	276	314	397	490	593	960	1.254
4	55	125	260	301	346	393	498	615	744	1.205	1.574
5	67	150	313	362	416	473	599	740	895	1.450	1.894
6	78	175	365	424	486	553	700	865	1.046	1.695	2.214
7	89	200	418	485	557	633	802	990	1.197	1.940	2.534
8	100	226	471	546	627	713	903	1.115	1.349	2.185	2.853
9	112	251	524	607	697	793	1.004	1.240	1.500	2.430	3.173
10	123	276	576	669	768	873	1.105	1.364	1.651	2.674	3.493
11	134	302	629	730	838	953	1.206	1.489	1.802	2.919	3.813
12	145	327	682	791	908	1.033	1.308	1.614	1.953	3.164	4.133
13	157	352	735	852	978	1.113	1.409	1.739	2.105	3.409	4.453
14	168	378	788	913	1.049	1.193	1.510	1.864	2.256	3.654	4.773
15	179	403	840	975	1.119	1.273	1.611	1.989	2.407	3.899	5.092
16	190	428	893	1.036	1.189	1.353	1.712	2.114	2.558	4.144	5.412
17	202	453	946	1.097	1.259	1.433	1.814	2.239	2.709	4.389	5.732
18	213	479	999	1.158	1.330	1.513	1.915	2.364	2.860	4.633	6.052
19	224	504	1.052	1.220	1.400	1.593	2.016	2.489	3.012	4.878	6.372
20	235	529	1.104	1.281	1.470	1.673	2.117	2.614	3.163	5.123	6.692
22	258	580	1.210	1.403	1.611	1.833	2.320	2.864	3.465	5.613	7.331
24	280	631	1.316	1.526	1.751	1.993	2.522	3.114	3.768	6.103	7.971
26	303	681	1.421	1.648	1.892	2.153	2.724	3.364	4.070	6.593	8.611
28	325	732	1.527	1.771	2.033	2.313	2.927	3.613	4.372	7.082	9.250
30	348	782	1.632	1.893	2.173	2.473	3.129	3.863	4.675	7.572	9.890
32	370	833	1.738	2.015	2.314	2.632	3.332	4.113	4.977	8.062	10.530
34	393	884	1.843	2.138	2.454	2.792	3.534	4.363	5.279	8.552	11.170
36	415	934	1.949	2.260	2.595	2.952	3.737	4.613	5.582	9.041	11.809
38	438	985	2.055	2.383	2.735	3.112	3.939	4.863	5.884	9.531	12.449
40	460	1.035	2.160	2.505	2.876	3.272	4.141	5.113	6.186	10.021	13.089
50	573	1.288				4.072	5.153	6.362	7.698		
60	685	1.541				4.871	6.165	7.612	9.210		
70	797	1.794				5.671	7.177	8.861	10.722		
80	910	2.047				6.471	8.189	10.110	12.234		
90	1.022	2.300				7.270	9.202	11.360	13.745		
100	1.135	2.553				8.070	10.214	12.609	15.257		
120	1.360	3.059									
140	1.585	3.565									
160	1.810	4.071									
180	2.034	4.577									
200	2.259	5.083									
220	2.484	5.589									
240	2.709	6.096									
260	2.934	6.602									
280	3.159	7.108									
300	3.384	7.614									

E 2016

Flow capacity / *Caudal de aire* (Nm^3/h)
Overpressure / *Sobrepresión 10%*
Temperature / *Temperatura* 0º C
Calculation according / *Calculos según* ISO EN 4126-1 / API 520

Model 1216

Capacity AIR / *Caudal de aire* (S.C.F.M.)

TOSACA
Safety relief valves

US Units

Set Press	Orifice / *Orificio* (inch)										
(psig)	0,236 (6 mm)	0,354 (9 mm)	0,512 (13 mm)	0,551 (14 mm)	0,591 (15 mm)	0,630 (16 mm)	0,709 (18 mm)	0,787 (20 mm)	0,866 (22 mm)	1,102 (28 mm)	1,260 (32 mm)
15	13	29	61	70	81	92	116	144	174	282	368
20	15	34	71	83	95	108	137	169	205	331	433
30	20	44	93	108	124	141	178	220	266	431	563
40	24	55	114	133	152	173	219	270	327	530	692
50	29	65	136	157	181	206	260	321	389	629	822
60	33	75	157	182	209	238	301	372	450	729	952
70	38	86	178	207	238	270	342	422	511	828	1.081
80	43	96	200	232	266	303	383	473	572	927	1.211
90	47	106	221	257	295	335	424	524	634	1.027	1.341
100	52	116	243	281	323	368	465	574	695	1.126	1.471
120	61	137	286	331	380	433	547	676	818	1.325	1.730
140	70	157	328	381	437	497	630	777	940	1.523	1.990
160	79	178	371	430	494	562	712	879	1.063	1.722	2.249
180	88	198	414	480	551	627	794	980	1.186	1.921	2.509
200	97	219	457	530	608	692	876	1.081	1.308	2.119	2.768
220	106	239	500	579	665	757	958	1.183	1.431	2.318	3.027
240	116	260	542	629	722	822	1.040	1.284	1.554	2.517	3.287
260	125	281	585	679	779	887	1.122	1.385	1.676	2.715	3.546
280	134	301	628	728	836	951	1.204	1.487	1.799	2.914	3.806
300	143	322	671	778	893	1.016	1.286	1.588	1.922	3.113	4.065
320	152	342	714	828	950	1.081	1.368	1.689	2.044	3.311	4.325
340	161	363	757	877	1.007	1.146	1.450	1.791	2.167	3.510	4.584
360	170	383	799	927	1.064	1.211	1.533	1.892	2.289	3.708	4.844
380	179	404	842	977	1.121	1.276	1.615	1.993	2.412	3.907	5.103
400	189	424	885	1.026	1.178	1.341	1.697	2.095	2.535	4.106	5.363
420	198	445	928	1.076	1.235	1.406	1.779	2.196	2.657	4.304	5.622
440	207	465	971	1.126	1.292	1.470	1.861	2.298	2.780	4.503	5.882
460	216	486	1.014	1.175	1.349	1.535	1.943	2.399	2.903	4.702	6.141
480	225	506	1.056	1.225	1.406	1.600	2.025	2.500	3.025	4.900	6.401
500	234	527	1.099	1.275	1.463	1.665	2.107	2.602	3.148	5.099	6.660
600	280	629	1.313	1.523	1.748	1.989	2.518	3.108	3.761	6.092	7.957
700	325	732				2.314	2.928	3.615	4.374		
800	371	835				2.638	3.339	4.122	4.987		
900	417	937				2.962	3.749	4.629	5.601		
1000	462	1.040				3.287	4.160	5.135	6.214		
1100	508	1.143				3.611	4.570	5.642	6.827		
1200	553	1.245				3.935	4.981	6.149	7.440		
1300	599	1.348				4.260	5.391	6.656	8.053		
1400	645	1.450									
1500	690	1.553									
2000	918	2.066									
2500	1.146	2.579									
3000	1.374	3.092									
3500	1.602	3.605									
4000	1.830	4.119									
4500	2.059	4.632									
5000											
5500											

E 2016

Flow capacity / *Caudal de aire* (S.C.F.M.)
Overpressure / *Sobrepresión 10%*
Temperature / *Temperatura* 60º F
Calculation according / *Calculos según* ISO EN 4126-1 / API 520

Model 1216

Capacity SATURATED STEAM / *Caudal Vapor saturado* (kg/h)

TOSACA
Safety relief valves

Set Press	Orifice / *Orificio* (mm)										
(barg)	**6**	**9**	**13**	**14**	**15**	**16**	**18**	**20**	**22**	**28**	**32**
0,2	10	23	47	55	63	72	91	112	135	219	286
0,5	13	29	60	69	80	91	115	142	172	278	363
1	17	39	81	94	108	123	155	192	232	376	491
2	26	59	123	143	164	187	236	291	353	571	746
3	35	79	165	192	220	250	317	391	473	767	1.002
4	44	99	207	241	276	314	398	491	594	962	1.257
5	53	120	250	290	332	378	479	591	715	1.158	1.512
6	62	140	292	338	388	442	559	691	836	1.354	1.768
7	71	160	334	387	445	506	640	790	956	1.549	2.023
8	80	180	376	436	501	570	721	890	1.077	1.745	2.279
9	89	200	418	485	557	634	802	990	1.198	1.940	2.534
10	98	221	460	534	613	697	883	1.090	1.319	2.136	2.790
11	107	241	503	583	669	761	964	1.190	1.439	2.331	3.045
12	116	261	545	632	725	825	1.044	1.289	1.560	2.527	3.301
13	125	281	587	681	781	889	1.125	1.389	1.681	2.723	3.556
14	134	301	629	730	837	953	1.206	1.489	1.802	2.918	3.812
15	143	322	671	778	894	1.017	1.287	1.589	1.922	3.114	4.067
16	152	342	713	827	950	1.081	1.368	1.688	2.043	3.309	4.322
17	161	362	756	876	1.006	1.144	1.448	1.788	2.164	3.505	4.578
18	170	382	798	925	1.062	1.208	1.529	1.888	2.285	3.701	4.833
19	179	403	840	974	1.118	1.272	1.610	1.988	2.405	3.896	5.089
20	188	423	882	1.023	1.174	1.336	1.691	2.088	2.526	4.092	5.344
22	206	463	966	1.121	1.287	1.464	1.853	2.287	2.767	4.483	5.855
24	224	504	1.051	1.218	1.399	1.592	2.014	2.487	3.009	4.874	6.366
26	242	544	1.135	1.316	1.511	1.719	2.176	2.686	3.250	5.265	6.877
28	260	584	1.219	1.414	1.623	1.847	2.338	2.886	3.492	5.656	7.388
30	278	625	1.304	1.512	1.736	1.975	2.499	3.085	3.733	6.047	7.899
32	296	665	1.388	1.610	1.848	2.102	2.661	3.285	3.975	6.439	8.410
34	314	706	1.472	1.707	1.960	2.230	2.823	3.485	4.216	6.830	8.921
36	332	746	1.557	1.805	2.072	2.358	2.984	3.684	4.458	7.221	9.431
38	350	786	1.641	1.903	2.185	2.486	3.146	3.884	4.699	7.612	9.942
40	367	827	1.725	2.001	2.297	2.613	3.307	4.083	4.941	8.003	10.453
50	457	1.029				3.252	4.116	5.081	6.148		
60	547	1.231				3.891	4.924	6.079	7.356		
70	637	1.433				4.529	5.732	7.077	8.563		
80	727	1.635				5.168	6.540	8.075	9.770		
90	817	1.837				5.806	7.349	9.073	10.978		
100	906	2.039				6.445	8.157	10.070	12.185		
120	1.086	2.443									
140	1.266	2.848									
160	1.445	3.252									
180	1.625	3.656									
200	1.804	4.060									

E 2016

Flow capacity / Caudal (kg/h)

Overpressure / Sobrepresión 10%

Calculation according / Calculos según ISO EN 4126-1 / API 520

Model 1216

Capacity SATURATED STEAM / *Caudal Vapor saturado* (lb/h)

TOSACA
Safety relief valves

US Units

Set Press	Orifice / *Orificio* (inch)										
(psig)	0,236 (6 mm)	0,354 (9 mm)	0,512 (13 mm)	0,551 (14 mm)	0,591 (15 mm)	0,630 (16 mm)	0,709 (18 mm)	0,787 (20 mm)	0,866 (22 mm)	1,102 (28 mm)	1,260 (32 mm)
15	39	87	182	211	242	275	348	430	520	843	1.101
20	46	102	214	248	285	324	410	506	612	991	1.295
30	59	133	278	322	370	421	533	657	795	1.289	1.683
40	73	164	342	396	455	518	655	809	979	1.586	2.071
50	86	195	406	471	540	615	778	961	1.162	1.883	2.459
60	100	225	470	545	626	712	901	1.112	1.346	2.180	2.847
70	114	256	534	619	711	809	1.024	1.264	1.529	2.477	3.236
80	127	287	598	694	796	906	1.147	1.415	1.713	2.774	3.624
90	141	317	662	768	881	1.003	1.269	1.567	1.896	3.072	4.012
100	155	348	726	842	967	1.100	1.392	1.719	2.080	3.369	4.400
120	182	409	854	991	1.137	1.294	1.638	2.022	2.447	3.963	5.176
140	209	471	982	1.139	1.308	1.488	1.883	2.325	2.813	4.557	5.952
160	237	532	1.110	1.288	1.478	1.682	2.129	2.628	3.180	5.152	6.729
180	264	594	1.239	1.436	1.649	1.876	2.375	2.932	3.547	5.746	7.505
200	291	655	1.367	1.585	1.820	2.070	2.620	3.235	3.914	6.340	8.281
220	318	716	1.495	1.734	1.990	2.264	2.866	3.538	4.281	6.935	9.057
240	346	778	1.623	1.882	2.161	2.458	3.111	3.841	4.648	7.529	9.834
260	373	839	1.751	2.031	2.331	2.652	3.357	4.145	5.015	8.123	10.610
280	400	901	1.879	2.179	2.502	2.847	3.603	4.448	5.382	8.718	11.386
300	428	962	2.007	2.328	2.672	3.041	3.848	4.751	5.749	9.312	12.162
320	455	1.023	2.135	2.477	2.843	3.235	4.094	5.054	6.116	9.906	12.939
340	482	1.085	2.264	2.625	3.014	3.429	4.340	5.357	6.482	10.501	13.715
360	509	1.146	2.392	2.774	3.184	3.623	4.585	5.661	6.849	11.095	14.491
380	537	1.208	2.520	2.922	3.355	3.817	4.831	5.964	7.216	11.689	15.268
400	564	1.269	2.648	3.071	3.525	4.011	5.076	6.267	7.583	12.284	16.044
420	591	1.330	2.776	3.219	3.696	4.205	5.322	6.570	7.950	12.878	16.820
440	619	1.392	2.904	3.368	3.866	4.399	5.568	6.874	8.317	13.472	17.596
460	646	1.453	3.032	3.517	4.037	4.593	5.813	7.177	8.684	14.066	18.373
480	673	1.515	3.160	3.665	4.208	4.787	6.059	7.480	9.051	14.661	19.149
500	700	1.576	3.288	3.814	4.378	4.981	6.304	7.783	9.418	15.255	19.925
600	837	1.883	3.929	4.557	5.231	5.952	7.532	9.299	11.252	18.227	23.806
700	973	2.190				6.922	8.761	10.815	13.087		
800	1.110	2.497				7.892	9.989	12.332	14.921		
900	1.246	2.804				8.863	11.217	13.848	16.756		
1000	1.383	3.111				9.833	12.445	15.364	18.590		
1100	1.519	3.418				10.803	13.673	16.880	20.425		
1200	1.656	3.725				11.774	14.901	18.396	22.259		
1300	1.792	4.032				12.744	16.129	19.912	24.094		
1400	1.929	4.339				13.714	17.357	21.428	25.928		
1500	2.065	4.646									
1600	2.201	4.953									
1700	2.338	5.260									
1800	2.474	5.567									

E 2016

Flow capacity / Caudal (lb/h)

Overpressure / Sobrepresión 10%

Calculation according / Calculos según ISO EN 4126-1 / API 520 / ASME Section VIII

Model 1216

Capacity WATER / *Caudal de Agua* (kg/h)

TOSACA
Safety relief valves

Set Press	Orifice / *Orificio* (mm)										
(barg)	**6**	**9**	**13**	**14**	**15**	**16**	**18**	**20**	**22**	**28**	**32**
0,2	324	729	1.521	1.765	2.026	2.305	2.917	3.601	4.357	7.058	9.219
0,5	512	1.153	2.406	2.790	3.203	3.644	4.612	5.694	6.890	11.160	14.576
1	725	1.631	3.402	3.946	4.529	5.154	6.522	8.052	9.743	15.783	20.614
2	1.025	2.306	4.811	5.580	6.406	7.288	9.224	11.388	13.779	22.320	29.153
3	1.255	2.824	5.893	6.834	7.845	8.926	11.297	13.947	16.876	27.336	35.705
4	1.449	3.261	6.804	7.891	9.059	10.307	13.045	16.105	19.487	31.565	41.228
5	1.621	3.646	7.607	8.823	10.128	11.524	14.585	18.006	21.787	35.291	46.095
6	1.775	3.994	8.334	9.665	11.095	12.624	15.977	19.724	23.866	38.660	50.494
7	1.917	4.314	9.001	10.439	11.984	13.635	17.257	21.305	25.779	41.757	54.540
8	2.050	4.612	9.623	11.160	12.811	14.576	18.448	22.776	27.559	44.640	58.306
9	2.174	4.892	10.206	11.837	13.588	15.461	19.567	24.157	29.230	47.348	61.842
10	2.292	5.156	10.759	12.477	14.323	16.297	20.626	25.464	30.811	49.909	65.188
11	2.404	5.408	11.284	13.086	15.023	17.092	21.633	26.707	32.315	52.345	68.369
12	2.510	5.649	11.785	13.668	15.691	17.852	22.594	27.894	33.752	54.673	71.410
13	2.613	5.879	12.267	14.226	16.331	18.581	23.517	29.033	35.130	56.905	74.325
14	2.712	6.101	12.730	14.763	16.948	19.283	24.405	30.129	36.456	59.054	77.131
15	2.807	6.315	13.176	15.282	17.543	19.960	25.261	31.187	37.736	61.126	79.838
16	2.899	6.522	13.609	15.783	18.118	20.614	26.090	32.210	38.974	63.131	82.457
17	2.988	6.723	14.027	16.268	18.676	21.249	26.893	33.201	40.173	65.074	84.994
18	3.075	6.918	14.434	16.740	19.217	21.865	27.672	34.163	41.338	66.960	87.458
19	3.159	7.108	14.830	17.199	19.744	22.464	28.431	35.100	42.471	68.795	89.855
20	3.241	7.292	15.215	17.646	20.256	23.047	29.169	36.011	43.574	70.582	92.189
22	3.399	7.648	15.957	18.507	21.245	24.172	30.593	37.769	45.701	74.027	96.689
24	3.550	7.988	16.667	19.330	22.190	25.247	31.953	39.449	47.733	77.319	100.988
26	3.695	8.315	17.348	20.119	23.096	26.278	33.258	41.059	49.682	80.476	105.112
28	3.835	8.628	18.002	20.879	23.968	27.270	34.514	42.609	51.557	83.514	109.080
30	3.969	8.931	18.634	21.611	24.809	28.227	35.725	44.105	53.367	86.445	112.908
32	4.100	9.224	19.245	22.320	25.623	29.153	36.897	45.551	55.117	89.281	116.611
34	4.226	9.508	19.838	23.007	26.411	30.050	38.032	46.953	56.813	92.028	120.200
36	4.348	9.784	20.413	23.674	27.177	30.921	39.135	48.314	58.460	94.696	123.685
38	4.467	10.052	20.972	24.323	27.922	31.769	40.207	49.638	60.062	97.291	127.074
40	4.584	10.313	21.517	24.955	28.647	32.594	41.252	50.928	61.623	99.819	130.375
50	5.125	11.530				36.441	46.121	56.939	68.896		
60	5.614	12.631				39.919	50.523	62.374	75.472		
70	6.063	13.643				43.118	54.571	67.371	81.519		
80	6.482	14.585				46.095	58.339	72.023	87.148		
90	6.875	15.469				48.891	61.877	76.392	92.434		
100	7.247	16.306				51.535	65.224	80.524	97.434		
120	7.939	17.862									
140	8.575	19.294									
160	9.167	20.626									
180	9.723	21.877									
200	10.249	23.060									
220	10.749	24.186									
240	11.227	25.261									
260	11.686	26.293									
280	12.127	27.285									
300	12.552	28.243									

E 2016

Flow capacity / Caudal (kg/h)

Overpressure / Sobrepresión 10%

Calculation according / Calculos según ISO EN 4126-1 / API 520

Model 1216

Capacity WATER / *Caudal de Agua* (gpm)

TOSACA
Safety relief valves

US Units

Set Press	Orifice / *Orificio* (inch)										
(psig)	0,236 (6 mm)	0,354 (9 mm)	0,512 (13 mm)	0,551 (14 mm)	0,591 (15 mm)	0,630 (16 mm)	0,709 (18 mm)	0,787 (20 mm)	0,866 (22 mm)	1,102 (28 mm)	1,260 (32 mm)
15	3	7	15	18	20	23	29	36	44	71	92
20	4	8	18	20	23	27	34	42	50	82	107
30	5	10	22	25	29	33	41	51	62	100	131
40	5	12	25	29	33	38	48	59	71	115	151
50	6	13	28	32	37	42	53	66	80	129	169
60	6	15	30	35	41	46	58	72	87	141	185
70	7	16	33	38	44	50	63	78	94	153	199
80	7	17	35	41	47	53	67	83	101	163	213
90	8	18	37	43	50	57	72	88	107	173	226
100	8	19	39	46	52	60	75	93	113	182	238
120	9	21	43	50	57	65	83	102	123	200	261
140	10	22	47	54	62	70	89	110	133	216	282
160	11	24	50	58	66	75	95	118	142	231	301
180	11	25	53	61	70	80	101	125	151	245	320
200	12	27	56	65	74	84	107	132	159	258	337
220	12	28	58	68	78	88	112	138	167	271	353
240	13	29	61	71	81	92	117	144	174	283	369
260	14	30	63	74	84	96	122	150	182	294	384
280	14	32	66	76	88	100	126	156	188	305	399
300	15	33	68	79	91	103	131	161	195	316	413
320	15	34	70	82	94	107	135	167	201	326	426
340	15	35	73	84	97	110	139	172	208	336	439
360	16	36	75	87	99	113	143	177	214	346	452
380	16	37	77	89	102	116	147	181	220	356	465
400	17	38	79	91	105	119	151	186	225	365	477
420	17	39	81	93	107	122	155	191	231	374	488
440	18	40	82	96	110	125	158	195	236	383	500
460	18	40	84	98	112	128	162	200	242	391	511
480	18	41	86	100	115	131	165	204	247	400	522
500	19	42	88	102	117	133	169	208	252	408	533
600	21	46	96	112	128	146	185	228	276	447	584
700	22	50				158	199	246	298		
800	24	53				169	213	263	319		
900	25	57				179	226	279	338		
1000	26	60				188	238	294	356		
1100	28	63				198	250	309	374		
1200	29	65				206	261	322	390		
1300	30	68				215	272	336	406		
1400	31	71				223	282	348	421		
1500	32	73									
2000	37	84									
2500	42	94									
3000	46	103									
3500	50	112									
4000	53	119									
4500	56	126									

E 2016

Flow capacity / Caudal (gpm)

Overpressure / Sobrepresión 10%

Calculation according / Calculos según ISO EN 4126-1 / API 520 / ASME Section VIII

Model 1400

Capacity AIR / *Caudal de aire* (kg/h)

TOSACA
Safety relief valves

Set Press (barg)	Flanges / *Bridas* EN-1092-1											
	15 x 25	20 x 25	25 x 40	32 x 50	40 x 65	50 x 80	65x100	80x125	100x150	125x200	150x250	200x300
Set Press	Orifice / *Orificio* (mm)											
(barg)	**13**	**13**	**23,8**	**29,5**	**36**	**46**	**60**	**72**	**90**	**105**	**125**	**153**
	Area (mm^2)											
	133	133	445	683	1.018	1.662	2.827	4.072	6.362	8.659	12.272	18.385
0,2	89	89	298	457	681	1.112	1.892	2.725	4.257	5.794	8.212	12.303
0,5	113	113	377	580	863	1.410	2.398	3.454	5.396	7.345	10.410	15.596
1	152	152	510	784	1.167	1.906	3.242	4.669	7.295	9.930	14.073	21.084
2	231	231	776	1.192	1.775	2.898	4.930	7.100	11.093	15.099	21.399	32.060
3	311	311	1.041	1.600	2.383	3.890	6.618	9.530	14.891	20.269	28.725	43.036
4	390	390	1.307	2.008	2.990	4.882	8.306	11.961	18.689	25.438	36.052	54.011
5	469	469	1.573	2.416	3.598	5.874	9.994	14.392	22.487	30.607	43.378	64.987
6	548	548	1.838	2.824	4.206	6.867	11.682	16.822	26.285	35.777	50.704	75.963
7	628	628	2.104	3.232	4.813	7.859	13.370	19.253	30.083	40.946	58.030	86.939
8	707	707	2.369	3.640	5.421	8.851	15.058	21.684	33.881	46.115	65.356	97.915
9	786	786	2.635	4.048	6.029	9.843	16.746	24.114	37.679	51.285	72.682	108.891
10	865	865	2.900	4.456	6.636	10.835	18.434	26.545	41.476	56.454	80.009	119.867
11	945	945	3.166	4.864	7.244	11.827	20.122	28.976	45.274	61.623	87.335	130.843
12	1.024	1.024	3.432	5.272	7.852	12.819	21.810	31.406	49.072	66.793	94.661	141.819
13	1.103	1.103	3.697	5.680	8.459	13.812	23.498	33.837	52.870	71.962	101.987	152.795
14	1.182	1.182	3.963	6.088	9.067	14.804	25.186	36.268	56.668	77.132	109.313	163.771
15	1.262	1.262	4.228	6.496	9.675	15.796	26.874	38.698	60.466	82.301	116.640	174.747
16	1.341	1.341	4.494	6.904	10.282	16.788	28.562	41.129	64.264	87.470	123.966	185.723
17	1.420	1.420	4.760	7.312	10.890	17.780	30.250	43.560	68.062	92.640	131.292	196.698
18	1.499	1.499	5.025	7.720	11.498	18.772	31.938	45.990	71.860	97.809	138.618	207.674
19	1.579	1.579	5.291	8.129	12.105	19.764	33.626	48.421	75.658	102.978	145.944	218.650
20	1.658	1.658	5.556	8.537	12.713	20.757	35.314	50.851	79.455	108.148	153.271	229.626
22	1.816	1.816	6.088	9.353	13.928	22.741	38.689	55.713	87.051	118.486	167.923	251.578
24	1.975	1.975	6.619	10.169	15.144	24.725	42.065	60.574	94.647	128.825	182.575	273.530
26	2.133	2.133	7.150	10.985	16.359	26.709	45.441	65.435	102.243	139.164	197.228	295.482
28	2.292	2.292	7.681	11.801	17.574	28.694	48.817	70.297	109.839	149.503	211.880	317.434
30	2.450	2.450	8.212	12.617	18.790	30.678	52.193	75.158	117.434	159.841	226.532	339.385
32	2.609	2.609	8.743	13.433	20.005	32.662	55.569	80.019	125.030	170.180	241.185	361.337
34	2.767	2.767	9.275	14.249	21.220	34.646	58.945	84.881	132.626	180.519	255.837	383.289
36	2.926	2.926	9.806	15.065	22.435	36.631	62.321	89.742	140.222	190.857	270.490	405.241
38	3.084	3.084	10.337	15.881	23.651	38.615	65.697	94.603	147.818	201.196	285.142	427.193
40	3.243	3.243	10.868	16.697	24.866	40.599	69.073	99.465	155.413	211.535	299.794	449.145
50	4.035	4.035	13.524									
55	4.431	4.431	14.852									
60	4.827	4.827	16.180									
65	5.224	5.224	17.508									
70	5.620	5.620	18.836									
75	6.016	6.016	20.164									
80	6.412	6.412	21.492									
85	6.808	6.808	22.820									
90	7.205	7.205	24.148									
95	7.601	7.601	25.476									
100	7.997	7.997	26.804									

E 2019

Flow capacity / *Caudal de aire* (kg/h)
Overpressure / *Sobrepresión 10%*
Temperature / *Temperatura* 20º C
Calculation according / *Calculos según* ISO EN 4126-1 / API 520

Model 1400

Capacity AIR / *Caudal de aire* (Nm^3/h)

TOSACA
Safety relief valves

Set Press (barg)	Flanges / *Bridas* EN-1092-1											
	15 x 25	20 x 25	25 x 40	32 x 50	40 x 65	50 x 80	65x100	80x125	100x150	125x200	150x250	200x300
Set Press (barg)	Orifice / *Orificio* (mm)											
	13	**13**	**23,8**	**29,5**	**36**	**46**	**60**	**72**	**90**	**105**	**125**	**153**
	Area (mm^2)											
	133	133	445	683	1.018	1.662	2.827	4.072	6.362	8.659	12.272	18.385
0,2	69	69	230	354	527	861	1.464	2.109	3.295	4.485	6.356	9.522
0,5	87	87	292	449	668	1.091	1.856	2.673	4.177	5.685	8.057	12.070
1	118	118	395	607	903	1.475	2.509	3.614	5.646	7.685	10.892	16.318
2	179	179	600	922	1.374	2.243	3.816	5.495	8.586	11.686	16.562	24.812
3	240	240	806	1.238	1.844	3.011	5.122	7.376	11.525	15.687	22.232	33.307
4	302	302	1.012	1.554	2.314	3.779	6.429	9.257	14.464	19.688	27.902	41.802
5	363	363	1.217	1.870	2.785	4.546	7.735	11.138	17.404	23.688	33.572	50.297
6	424	424	1.423	2.186	3.255	5.314	9.041	13.020	20.343	27.689	39.242	58.792
7	486	486	1.628	2.501	3.725	6.082	10.348	14.901	23.282	31.690	44.912	67.286
8	547	547	1.834	2.817	4.195	6.850	11.654	16.782	26.222	35.691	50.582	75.781
9	608	608	2.039	3.133	4.666	7.618	12.961	18.663	29.161	39.692	56.252	84.276
10	670	670	2.245	3.449	5.136	8.386	14.267	20.544	32.101	43.692	61.922	92.771
11	731	731	2.450	3.765	5.606	9.154	15.573	22.426	35.040	47.693	67.592	101.265
12	792	792	2.656	4.080	6.077	9.922	16.880	24.307	37.979	51.694	73.262	109.760
13	854	854	2.861	4.396	6.547	10.689	18.186	26.188	40.919	55.695	78.933	118.255
14	915	915	3.067	4.712	7.017	11.457	19.492	28.069	43.858	59.696	84.603	126.750
15	976	976	3.273	5.028	7.488	12.225	20.799	29.950	46.797	63.696	90.273	135.244
16	1.038	1.038	3.478	5.344	7.958	12.993	22.105	31.832	49.737	67.697	95.943	143.739
17	1.099	1.099	3.684	5.659	8.428	13.761	23.412	33.713	52.676	71.698	101.613	152.234
18	1.160	1.160	3.889	5.975	8.898	14.529	24.718	35.594	55.615	75.699	107.283	160.729
19	1.222	1.222	4.095	6.291	9.369	15.297	26.024	37.475	58.555	79.700	112.953	169.223
20	1.283	1.283	4.300	6.607	9.839	16.064	27.331	39.356	61.494	83.700	118.623	177.718
22	1.406	1.406	4.711	7.238	10.780	17.600	29.944	43.119	67.373	91.702	129.963	194.708
24	1.528	1.528	5.123	7.870	11.720	19.136	32.556	46.881	73.252	99.704	141.303	211.697
26	1.651	1.651	5.534	8.502	12.661	20.672	35.169	50.643	79.130	107.705	152.644	228.687
28	1.774	1.774	5.945	9.133	13.601	22.207	37.782	54.406	85.009	115.707	163.984	245.676
30	1.896	1.896	6.356	9.765	14.542	23.743	40.395	58.168	90.888	123.708	175.324	262.666
32	2.019	2.019	6.767	10.396	15.483	25.279	43.007	61.931	96.767	131.710	186.664	279.655
34	2.142	2.142	7.178	11.028	16.423	26.815	45.620	65.693	102.645	139.712	198.004	296.645
36	2.264	2.264	7.589	11.660	17.364	28.350	48.233	69.455	108.524	147.713	209.344	313.635
38	2.387	2.387	8.000	12.291	18.304	29.886	50.846	73.218	114.403	155.715	220.684	330.624
40	2.510	2.510	8.411	12.923	19.245	31.422	53.458	76.985	120.282	163.717	232.025	347.614
50	3.123	3.123	10.467									
55	3.429	3.429	11.495									
60	3.736	3.736	12.522									
65	4.043	4.043	13.550									
70	4.349	4.349	14.578									
75	4.656	4.656	15.606									
80	4.963	4.963	16.633									
85	5.269	5.269	17.661									
90	5.576	5.576	18.689									
95	5.883	5.883	19.717									
100	6.189	6.189	20.745									

E 2019

Flow capacity / *Caudal de aire* (Nm^3/h)
Overpressure / *Sobrepresión 10%*
Temperature / *Temperatura* 0º C
Calculation according / *Calculos según* ISO EN 4126-1 / API 520

Model 1400

Capacity AIR / *Caudal de aire* (S.C.F.M.)

TOSACA
Safety relief valves

US Units

Set Press (barg)	Flanges / *Bridas* EN-1092-1											
	15 x 25	20 x 25	25 x 40	32 x 50	40 x 65	50 x 80	65x100	80x125	100x150	125x200	150x250	200x300
Set Press	Orifice / *Orificio* (inch)											
(barg)	**13**	**13**	**23,8**	**29,5**	**36**	**46**	**60**	**72**	**90**	**105**	**125**	**153**
	Area (mm^2)											
	133	133	445	683	1.018	1.662	2.827	4.072	6.362	8.659	12.272	18.385
15	74	74	250	384	571	933	1.587	2.285	3.570	4.860	6.887	10.318
20	88	88	294	451	672	1.097	1.866	2.688	4.200	5.716	8.101	12.137
30	114	114	382	586	873	1.426	2.426	3.493	5.458	7.429	10.529	15.774
40	140	140	470	722	1.075	1.755	2.985	4.299	6.717	9.142	12.957	19.412
50	166	166	558	857	1.276	2.083	3.545	5.104	7.976	10.856	15.385	23.049
60	193	193	646	992	1.477	2.412	4.104	5.910	9.234	12.569	17.813	26.687
70	219	219	734	1.127	1.679	2.741	4.664	6.715	10.493	14.282	20.241	30.324
80	245	245	822	1.263	1.880	3.070	5.223	7.521	11.752	15.995	22.669	33.962
90	271	271	910	1.398	2.082	3.399	5.782	8.327	13.010	17.708	25.097	37.600
100	298	298	998	1.533	2.283	3.728	6.342	9.132	14.269	19.422	27.525	41.237
120	350	350	1.174	1.803	2.686	4.385	7.461	10.743	16.786	22.848	32.381	48.512
140	403	403	1.350	2.074	3.089	5.043	8.579	12.354	19.304	26.274	37.237	55.787
160	455	455	1.526	2.344	3.491	5.700	9.698	13.965	21.821	29.701	42.093	63.062
180	508	508	1.702	2.615	3.894	6.358	10.817	15.576	24.338	33.127	46.949	70.337
200	560	560	1.878	2.885	4.297	7.016	11.936	17.187	26.855	36.553	51.804	77.612
220	613	613	2.054	3.156	4.700	7.673	13.055	18.799	29.373	39.980	56.660	84.887
240	665	665	2.230	3.426	5.102	8.331	14.173	20.410	31.890	43.406	61.516	92.162
260	718	718	2.406	3.697	5.505	8.988	15.292	22.021	34.407	46.832	66.372	99.437
280	770	770	2.582	3.967	5.908	9.646	16.411	23.632	36.925	50.259	71.228	106.712
300	823	823	2.758	4.238	6.311	10.304	17.530	25.243	39.442	53.685	76.084	113.987
320	875	875	2.934	4.508	6.713	10.961	18.649	26.854	41.959	57.111	80.940	121.262
340	928	928	3.110	4.778	7.116	11.619	19.767	28.465	44.477	60.538	85.796	128.537
360	980	980	3.286	5.049	7.519	12.276	20.886	30.076	46.994	63.964	90.652	135.813
380	1.033	1.033	3.462	5.319	7.922	12.934	22.005	31.687	49.511	67.390	95.508	143.088
400	1.086	1.086	3.638	5.590	8.325	13.592	23.124	33.298	52.029	70.817	100.364	150.363
420	1.138	1.138	3.814	5.860	8.727	14.249	24.243	34.909	54.546	74.243	105.220	157.638
440	1.191	1.191	3.990	6.131	9.130	14.907	25.361	36.520	57.063	77.669	110.076	164.913
460	1.243	1.243	4.167	6.401	9.533	15.564	26.480	38.132	59.581	81.096	114.932	172.188
480	1.296	1.296	4.343	6.672	9.936	16.222	27.599	39.743	62.098	84.522	119.787	179.463
500	1.348	1.348	4.519	6.942	10.338	16.880	28.718	41.354	64.615	87.948	124.643	186.738
600	1.611	1.611	5.399	8.294	12.352	20.168	34.312	49.409	77.202	105.080	148.923	223.113
700	1.873	1.873	6.279	9.647	14.366	23.456	39.906	57.465	89.788	122.212	173.203	259.488
800	2.136	2.136	7.159									
900	2.399	2.399	8.039									
1000	2.661	2.661	8.920									
1100	2.924	2.924	9.800									
1200	3.186	3.186	10.680									
1300	3.449	3.449	11.560									
1400	3.712	3.712	12.440									
1500	3.974	3.974	13.320									
1500	3.974	3.974	13.320									

E 2019

Flow capacity / *Caudal de aire* (S.C.F.M.)
Overpressure / *Sobrepresión 10%*
Temperature / *Temperatura* 60º F
Calculation according / *Calculos según* ISO EN 4126-1 / API 520

Model 1400

Capacity SATURATED STEAM / *Caudal Vapor saturado* (kg/h)

TOSACA
Safety relief valves

Set Press (barg)	Flanges / *Bridas* EN-1092-1											
	15 x 25	20 x 25	25 x 40	32 x 50	40 x 65	50 x 80	65x100	80x125	100x150	125x200	150x250	200x300
Set Press	Orifice / *Orificio* (mm)											
(barg)	**13**	**13**	**23,8**	**29,5**	**36**	**46**	**60**	**72**	**90**	**105**	**125**	**153**
	Area (mm^2)											
	133	133	445	683	1.018	1.662	2.827	4.072	6.362	8.659	12.272	18.385
0,2	55	55	184	283	422	689	1.171	1.687	2.636	3.587	5.084	7.617
0,5	70	70	234	359	535	873	1.485	2.138	3.341	4.547	6.445	9.655
1	94	94	316	485	723	1.180	2.007	2.891	4.517	6.148	8.713	13.053
2	143	143	480	738	1.099	1.794	3.052	4.395	6.868	9.348	13.248	19.848
3	192	192	645	990	1.475	2.408	4.097	5.900	9.219	12.548	17.784	26.643
4	241	241	809	1.243	1.851	3.023	5.142	7.405	11.570	15.749	22.320	33.439
5	290	290	974	1.496	2.227	3.637	6.187	8.910	13.922	18.949	26.855	40.234
6	340	340	1.138	1.748	2.604	4.251	7.232	10.415	16.273	22.149	31.391	47.029
7	389	389	1.302	2.001	2.980	4.865	8.277	11.920	18.624	25.350	35.927	53.824
8	438	438	1.467	2.254	3.356	5.480	9.323	13.424	20.976	28.550	40.462	60.620
9	487	487	1.631	2.506	3.732	6.094	10.368	14.929	23.327	31.751	44.998	67.415
10	536	536	1.796	2.759	4.109	6.708	11.413	16.434	25.678	34.951	49.534	74.210
11	585	585	1.960	3.011	4.485	7.322	12.458	17.939	28.030	38.151	54.069	81.005
12	634	634	2.125	3.264	4.861	7.937	13.503	19.444	30.381	41.352	58.605	87.801
13	683	683	2.289	3.517	5.237	8.551	14.548	20.949	32.732	44.552	63.141	94.596
14	732	732	2.453	3.769	5.613	9.165	15.593	22.453	35.083	47.752	67.676	101.391
15	781	781	2.618	4.022	5.990	9.779	16.638	23.958	37.435	50.953	72.212	108.186
16	830	830	2.782	4.275	6.366	10.393	17.683	25.463	39.786	54.153	76.748	114.982
17	879	879	2.947	4.527	6.742	11.008	18.728	26.968	42.137	57.354	81.283	121.777
18	928	928	3.111	4.780	7.118	11.622	19.773	28.473	44.489	60.554	85.819	128.572
19	977	977	3.276	5.032	7.494	12.236	20.818	29.978	46.840	63.754	90.355	135.367
20	1.026	1.026	3.440	5.285	7.871	12.850	21.863	31.482	49.191	66.955	94.890	142.162
22	1.124	1.124	3.769	5.790	8.623	14.079	23.953	34.492	53.894	73.355	103.962	155.753
24	1.223	1.223	4.098	6.295	9.375	15.307	26.043	37.502	58.596	79.756	113.033	169.343
26	1.321	1.321	4.427	6.801	10.128	16.536	28.133	40.511	63.299	86.157	122.104	182.934
28	1.419	1.419	4.755	7.306	10.880	17.764	30.223	43.521	68.001	92.558	131.176	196.524
30	1.517	1.517	5.084	7.811	11.633	18.993	32.313	46.531	72.704	98.958	140.247	210.115
32	1.615	1.615	5.413	8.316	12.385	20.221	34.403	49.540	77.407	105.359	149.318	223.705
34	1.713	1.713	5.742	8.822	13.137	21.450	36.493	52.550	82.109	111.760	158.390	237.296
36	1.811	1.811	6.071	9.327	13.890	22.678	38.583	55.560	86.812	118.161	167.461	250.886
38	1.909	1.909	6.400	9.832	14.642	23.907	40.673	58.569	91.514	124.561	176.532	264.477
40	2.007	2.007	6.729	10.337	15.395	25.135	42.763	61.579	96.217	130.962	185.604	278.067
50	2.498	2.498	8.373									
55	2.743	2.743	9.195									
60	2.989	2.989	10.017									
65	3.234	3.234	10.839									
70	3.479	3.479	11.661									
75	3.725	3.725	12.484									
80	3.970	3.970	13.306									
85	4.215	4.215	14.128									
90	4.460	4.460	14.950									

E 2019

Flow capacity / Caudal (kg/h)
Overpressure / Sobrepresión 10%
Calculation according / Calculos según ISO EN 4126-1 / API 520

Model 1400

Capacity SATURATED STEAM / *Caudal Vapor saturado* (lb/h)

TOSACA
Safety relief valves

US Units

Set Press (barg)	Flanges / *Bridas* EN-1092-1											
	15 x 25	20 x 25	25 x 40	32 x 50	40 x 65	50 x 80	65x100	80x125	100x150	125x200	150x250	200x300
Set Press	Orifice / *Orificio* (inch)											
(psig)	**13**	**13**	**23,8**	**29,5**	**36**	**46**	**60**	**72**	**90**	**105**	**125**	**153**
	Area (mm^2)											
	133	133	445	683	1.018	1.662	2.827	4.072	6.362	8.659	12.272	18.385
15	211	211	709	1.089	1.621	2.647	4.503	6.485	10.132	13.791	19.546	29.283
20	249	249	833	1.281	1.907	3.114	5.297	7.628	11.919	16.223	22.991	34.445
30	323	323	1.083	1.664	2.479	4.047	6.885	9.914	15.491	21.085	29.883	44.770
40	398	398	1.333	2.048	3.050	4.980	8.473	12.201	19.064	25.948	36.774	55.095
50	472	472	1.583	2.432	3.622	5.913	10.061	14.487	22.636	30.811	43.666	65.419
60	547	547	1.833	2.816	4.193	6.847	11.648	16.774	26.209	35.673	50.557	75.744
70	621	621	2.083	3.200	4.765	7.780	13.236	19.060	29.782	40.536	57.449	86.069
80	696	696	2.332	3.584	5.337	8.713	14.824	21.347	33.354	45.399	64.340	96.393
90	770	770	2.582	3.967	5.908	9.647	16.412	23.633	36.927	50.261	71.232	106.718
100	845	845	2.832	4.351	6.480	10.580	18.000	25.919	40.499	55.124	78.123	117.043
120	994	994	3.332	5.119	7.623	12.446	21.175	30.492	47.644	64.849	91.906	137.692
140	1.143	1.143	3.831	5.886	8.766	14.313	24.351	35.065	54.789	74.574	105.689	158.341
160	1.292	1.292	4.331	6.654	9.910	16.179	27.526	39.638	61.934	84.300	119.472	178.991
180	1.441	1.441	4.831	7.422	11.053	18.046	30.702	44.211	69.080	94.025	133.255	199.640
200	1.590	1.590	5.330	8.189	12.196	19.913	33.878	48.784	76.225	103.750	147.038	220.289
220	1.739	1.739	5.830	8.957	13.339	21.779	37.053	53.357	83.370	113.476	160.821	240.939
240	1.889	1.889	6.330	9.725	14.482	23.646	40.229	57.930	90.515	123.201	174.604	261.588
260	2.038	2.038	6.829	10.492	15.626	25.512	43.404	62.502	97.660	132.926	188.387	282.237
280	2.187	2.187	7.329	11.260	16.769	27.379	46.580	67.075	104.805	142.651	202.170	302.887
300	2.336	2.336	7.829	12.028	17.912	29.245	49.756	71.648	111.950	152.377	215.953	323.536
320	2.485	2.485	8.328	12.795	19.055	31.112	52.931	76.221	119.095	162.102	229.736	344.186
340	2.634	2.634	8.828	13.563	20.198	32.978	56.107	80.794	126.240	171.827	243.519	364.835
360	2.783	2.783	9.328	14.331	21.342	34.845	59.282	85.367	133.386	181.553	257.302	385.484
380	2.932	2.932	9.827	15.098	22.485	36.711	62.458	89.940	140.531	191.278	271.085	406.134
400	3.081	3.081	10.327	15.866	23.628	38.578	65.634	94.512	147.676	201.003	284.868	426.783
420	3.230	3.230	10.827	16.634	24.771	40.445	68.809	99.085	154.821	210.728	298.651	447.432
420	3.230	3.230	10.827	16.634	24.771	40.445	68.809	99.085	154.821	210.728	298.651	447.432
440	3.379	3.379	11.326	17.401	25.915	42.311	71.985	103.658	161.966	220.454	312.434	468.082
460	3.528	3.528	11.826	18.169	27.058	44.178	75.160	108.231	169.111	230.179	326.217	488.731
480	3.677	3.677	12.326	18.937	28.201	46.044	78.336	112.804	176.256	239.904	340.000	509.380
500	3.827	3.827	12.825	19.704	29.344	47.911	81.512	117.377	183.401	249.630	353.783	530.030
600	4.572	4.572	15.324	23.543	35.060	57.244	97.390	140.241	219.127	298.256	422.698	633.277
700	5.317	5.317	17.822									
800	6.063	6.063	20.320									
900	6.808	6.808	22.819									
1000	7.553	7.553	25.317									
1100	8.299	8.299	27.815									
1200	9.044	9.044	30.314									
1300	9.790	9.790	32.812									

E 2019

Flow capacity / Caudal (lb/h)
Overpressure / Sobrepresión 10%
Calculation according / Calculos según ISO EN 4126-1 / API 520 / ASME Section VIII

Model 1400

Capacity WATER / *Caudal de Agua* (kg/h)

TOSACA
Safety relief valves

Set Press (barg)	Flanges / *Bridas* EN-1092-1											
	15 x 25	20 x 25	25 x 40	32 x 50	40 x 65	50 x 80	65x100	80x125	100x150	125x200	150x250	200x300
Set Press	Orifice / *Orificio* (mm)											
(barg)	**13**	**13**	**23,8**	**29,5**	**36**	**46**	**60**	**72**	**90**	**105**	**125**	**153**
	Area (mm^2)											
	133	133	445	683	1.018	1.662	2.827	4.072	6.362	8.659	12.272	18.385
0,2	1.585	1.585	5.312	8.161	12.154	19.844	33.761	48.615	75.962	103.392	146.531	219.529
0,5	2.506	2.506	8.399	12.904	19.217	31.376	53.380	76.868	120.106	163.477	231.686	347.106
1	3.544	3.544	11.878	18.249	27.177	44.372	75.491	108.707	169.855	231.192	327.653	490.882
2	5.012	5.012	16.798	25.808	38.434	62.752	106.761	153.736	240.212	326.955	463.372	694.212
3	6.138	6.138	20.574	31.608	47.072	76.855	130.755	188.287	294.198	400.436	567.512	850.233
4	7.088	7.088	23.756	36.498	54.354	88.744	150.983	217.415	339.711	462.384	655.306	981.764
5	7.924	7.924	26.560	40.806	60.769	99.219	168.804	243.077	379.808	516.961	732.655	1.097.646
6	8.680	8.680	29.095	44.701	66.569	108.689	184.915	266.278	416.059	566.303	802.583	1.202.411
7	9.376	9.376	31.427	48.282	71.903	117.398	199.731	287.613	449.395	611.677	866.889	1.298.752
8	10.023	10.023	33.596	51.616	76.868	125.503	213.522	307.471	480.424	653.910	926.743	1.388.424
9	10.631	10.631	35.634	54.747	81.531	133.116	226.474	326.122	509.566	693.576	982.959	1.472.646
10	11.206	11.206	37.562	57.708	85.941	140.317	238.724	343.763	537.130	731.094	1.036.130	1.552.305
11	11.753	11.753	39.395	60.525	90.135	147.166	250.376	360.542	563.347	766.777	1.086.703	1.628.072
12	12.276	12.276	41.147	63.216	94.143	153.709	261.509	376.574	588.396	800.873	1.135.024	1.700.465
13	12.777	12.777	42.827	65.798	97.988	159.986	272.188	391.950	612.422	833.575	1.181.370	1.769.901
14	13.260	13.260	44.444	68.281	101.687	166.025	282.463	406.746	635.541	865.042	1.225.966	1.836.713
15	13.725	13.725	46.004	70.678	105.256	171.852	292.376	421.022	657.847	895.403	1.268.995	1.901.178
16	14.175	14.175	47.513	72.996	108.707	177.488	301.965	434.830	679.422	924.768	1.310.613	1.963.528
17	14.611	14.611	48.975	75.242	112.053	182.951	311.259	448.212	700.332	953.229	1.350.949	2.023.959
18	15.035	15.035	50.395	77.424	115.302	188.255	320.282	461.207	720.635	980.865	1.390.115	2.082.636
19	15.447	15.447	51.776	79.545	118.461	193.414	329.059	473.845	740.383	1.007.743	1.428.207	2.139.705
20	15.848	15.848	53.121	81.612	121.539	198.438	337.607	486.155	759.616	1.033.922	1.465.309	2.195.291
22	16.622	16.622	55.713	85.595	127.471	208.124	354.086	509.883	796.692	1.084.387	1.536.830	2.302.441
24	17.361	17.361	58.191	89.401	133.139	217.378	369.830	532.556	832.118	1.132.605	1.605.166	2.404.821
26	18.070	18.070	60.567	93.052	138.575	226.254	384.932	554.301	866.096	1.178.853	1.670.710	2.503.017
28	18.752	18.752	62.853	96.564	143.806	234.795	399.462	575.226	898.790	1.223.353	1.733.778	2.597.504
30	19.410	19.410	65.059	99.954	148.854	243.036	413.483	595.415	930.336	1.266.291	1.794.630	2.688.672
32	20.047	20.047	67.193	103.232	153.736	251.007	427.043	614.942	960.847	1.307.820	1.853.486	2.776.848
34	20.664	20.664	69.261	106.409	158.467	258.732	440.186	633.868	990.419	1.348.070	1.910.530	2.862.310
36	21.263	21.263	71.269	109.494	163.061	266.233	452.948	652.245	1.019.132	1.387.152	1.965.919	2.945.293
38	21.845	21.845	73.222	112.494	167.529	273.528	465.360	670.118	1.047.059	1.425.164	2.019.790	3.026.000
40	22.413	22.413	75.124	115.417	171.882	280.634	477.449	687.526	1.074.260	1.462.187	2.072.261	3.104.611
50	25.058	25.058	92.390									
55	26.281	26.281	96.900									
60	27.450	27.450	101.208									
65	28.571	28.571	105.341									
70	29.650	29.650	109.318									
75	30.690	30.690	113.154									
80	31.697	31.697	116.865									
85	32.672	32.672	120.462									
90	33.619	33.619	123.954									
95	34.541	34.541	127.351									
100	35.438	35.438	130.659									

E 2019

Flow capacity / Caudal (kg/h)
Overpressure / Sobrepresión 10%
Calculation according / Calculos según ISO EN 4126-1 / API 520

Model 1400

Capacity WATER / *Caudal de Agua* (gpm)

TOSACA
Safety relief valves

US Units

	Flanges / *Bridas* EN-1092-1											
	15 x 25	20 x 25	25 x 40	32 x 50	40 x 65	50 x 80	65x100	80x125	100x150	125x200	150x250	200x300
Set Press	Orifice / *Orificio* (inch)											
(psig)	**13**	**13**	**23,8**	**29,5**	**36**	**46**	**60**	**72**	**90**	**105**	**125**	**153**
	Area (mm^2)											
	133	133	445	683	1.018	1.662	2.827	4.072	6.362	8.659	12.272	18.385
15	16	16	58	90	134	219	372	535	837	1.139	1.614	2.418
20	18	18	68	104	155	252	429	618	966	1.315	1.863	2.792
30	22	22	83	127	189	309	526	757	1.183	1.610	2.282	3.419
40	26	26	96	147	219	357	607	874	1.366	1.859	2.635	3.948
50	29	29	107	164	244	399	679	977	1.527	2.079	2.946	4.414
60	32	32	117	180	268	437	744	1.071	1.673	2.277	3.227	4.835
70	34	34	126	194	289	472	803	1.157	1.807	2.460	3.486	5.222
80	37	37	135	208	309	505	859	1.236	1.932	2.629	3.727	5.583
90	39	39	143	220	328	535	911	1.311	2.049	2.789	3.953	5.922
100	41	41	151	232	346	564	960	1.382	2.160	2.940	4.166	6.242
120	45	45	165	254	379	618	1.052	1.514	2.366	3.220	4.564	6.838
140	48	48	179	275	409	668	1.136	1.636	2.556	3.478	4.930	7.386
160	52	52	191	294	437	714	1.214	1.749	2.732	3.719	5.270	7.896
180	55	55	203	311	464	757	1.288	1.855	2.898	3.944	5.590	8.375
200	58	58	214	328	489	798	1.358	1.955	3.055	4.158	5.892	8.828
220	61	61	224	344	513	837	1.424	2.050	3.204	4.360	6.180	9.258
240	63	63	234	359	535	874	1.487	2.141	3.346	4.554	6.455	9.670
260	66	66	244	374	557	910	1.548	2.229	3.483	4.740	6.718	10.065
280	69	69	253	388	578	944	1.606	2.313	3.614	4.919	6.972	10.445
300	71	71	262	402	599	977	1.663	2.394	3.741	5.092	7.216	10.812
320	73	73	270	415	618	1.009	1.717	2.473	3.864	5.259	7.453	11.166
340	76	76	279	428	637	1.040	1.770	2.549	3.983	5.421	7.682	11.510
360	78	78	287	440	656	1.071	1.821	2.623	4.098	5.578	7.905	11.843
380	80	80	294	452	674	1.100	1.871	2.695	4.210	5.731	8.122	12.168
400	82	82	302	464	691	1.128	1.920	2.765	4.320	5.880	8.333	12.484
420	84	84	310	476	708	1.156	1.967	2.833	4.426	6.025	8.539	12.792
420	84	84	310	476	708	1.156	1.967	2.833	4.426	6.025	8.539	12.792
440	86	86	317	487	725	1.184	2.014	2.900	4.531	6.167	8.740	13.093
460	88	88	324	498	741	1.210	2.059	2.965	4.632	6.305	8.936	13.388
480	90	90	331	508	757	1.236	2.103	3.029	4.732	6.441	9.128	13.676
500	92	92	338	519	773	1.262	2.146	3.091	4.830	6.574	9.316	13.958
600	100	100	370	568	846	1.382	2.351	3.386	5.291	7.201	10.206	15.290
700	108	108	400									
800	116	116	427									
900	123	123	453									
1000	130	130	478									
1100	136	136	501									
1200	142	142	523									
1300	148	148	545									
1400	153	153	565									
1500	159	159	585									

E 2019

Flow capacity / Caudal (gpm)
Overpressure / Sobrepresión 10%
Calculation according / Calculos según ISO EN 4126-1 / API 520 / ASME Section VIII

Model 1415

Capacity AIR / *Caudal de aire* (kg/h)

TOSACA
Safety relief valves

Set press	ORIFICE DESIGNATION													
(barg)	D	E	F	G	H	J	K	L	M	N	P	Q	R	T
0,2	72	135	205	353	541	846	1.218	1.922	2.422	2.882	4.267	7.379	10.589	17.302
0,5	92	172	260	448	686	1.072	1.544	2.437	3.070	3.654	5.409	9.354	13.423	21.932
1	124	232	351	605	928	1.449	2.087	3.294	4.151	4.940	7.312	12.645	18.146	29.650
2	188	353	534	920	1.410	2.204	3.173	5.009	6.311	7.511	11.119	19.228	27.593	45.085
3	253	473	717	1.235	1.893	2.958	4.260	6.725	8.472	10.083	14.925	25.811	37.040	60.521
4	317	594	900	1.550	2.376	3.713	5.346	8.440	10.633	12.654	18.732	32.394	46.486	75.956
5	382	715	1.083	1.865	2.859	4.467	6.433	10.155	12.794	15.226	22.538	38.977	55.933	91.391
6	446	835	1.266	2.180	3.342	5.222	7.519	11.870	14.954	17.797	26.345	45.560	65.379	106.827
7	511	956	1.448	2.495	3.825	5.976	8.606	13.585	17.115	20.369	30.151	52.143	74.826	122.262
8	575	1.077	1.631	2.810	4.308	6.731	9.692	15.300	19.276	22.940	33.958	58.727	84.273	137.698
9	640	1.198	1.814	3.125	4.790	7.485	10.779	17.015	21.437	25.512	37.764	65.310	93.719	153.133
10	704	1.318	1.997	3.440	5.273	8.240	11.865	18.730	23.598	28.083	41.571	71.893	103.166	168.568
12	833	1.560	2.363	4.070	6.239	9.749	14.038	22.160	27.919	33.226	49.184	85.059	122.059	199.439
14	962	1.801	2.728	4.700	7.205	11.258	16.211	25.590	32.241	38.369	56.797	98.225	140.953	230.310
16	1.091	2.043	3.094	5.330	8.171	12.767	18.384	29.020	36.562	43.512	64.410	111.391	159.846	261.181
18	1.220	2.284	3.460	5.960	9.136	14.276	20.557	32.450	40.884	48.655	72.023	124.557	178.739	292.051
20	1.349	2.526	3.826	6.590	10.102	15.784	22.730	35.880	45.205	53.798	79.636	137.723	197.633	322.922
22	1.478	2.767	4.191	7.220	11.068	17.293	24.903	39.310	49.527	58.941	87.249	150.889		
24	1.607	3.008	4.557	7.850	12.034	18.802	27.075	42.740	53.848	64.084	94.862	164.055		
26	1.735	3.250	4.923	8.480	12.999	20.311	29.248	46.170	58.170	69.227	102.475	177.221		
28	1.864	3.491	5.289	9.110	13.965	21.820	31.421	49.601	62.491	74.370	110.088	190.387		
30	1.993	3.733	5.654	9.740	14.931	23.329	33.594	53.031	66.813	79.513	117.701	203.553		
32	2.122	3.974	6.020	10.370	15.896	24.838	35.767	56.461	71.134	84.656	125.314	216.719		
34	2.251	4.216	6.386	11.000	16.862	26.347	37.940	59.891	75.456	89.799	132.927	229.885		
36	2.380	4.457	6.751	11.630	17.828	27.856	40.113	63.321	79.778	94.942	140.540	243.051		
38	2.509	4.698	7.117	12.260	18.794	29.365	42.286	66.751	84.099	100.085	148.153	256.217		
40	2.638	4.940	7.483	12.890	19.759	30.874	44.459	70.181	88.421	105.228	155.766	269.383		
50	3.283	6.147	9.311	16.040	24.588	38.419	55.323	87.332	110.028	130.943	193.832			
60	3.927	7.354	11.140	19.191	29.417	45.964	66.188	104.482	131.636	156.658	231.897			
70	4.572	8.561	12.969	22.341	34.246	53.509	77.052	121.632	153.244					
80	5.217	9.769	14.797	25.491	39.074	61.053	87.917	138.783						
90	5.861	10.976	16.626	28.641	43.903	68.598	98.782	155.933						
100	6.506	12.183	18.455	31.791	48.732	76.143	109.646	173.084						
120	7.795	14.597	22.112	38.091	58.389	91.233	131.375							
140	9.085	17.012	25.769	44.391	68.046	106.322	153.104							
160	10.374	19.426	29.426	50.691	77.704	121.412								
180	11.663	21.840	33.083	56.991	87.361	136.502								
200	12.953	24.255	36.741	63.292										
220	14.242	26.669	40.398	69.592										
240	15.531	29.083	44.055	75.892										
260	16.820	31.498	47.712											
280	18.110	33.912	51.370											
300	19.399	36.326	55.027											
350	22.622	42.362												
400	25.846	48.398												

E 2016

Flow capacity / *Caudal de aire* (kg/h)
Overpressure / *Sobrepresión 10%*
Temperature / *Temperatura* 20º C
Calculation according / *Calculos según* ISO EN 4126-1 / API 520

Model 1415

Capacity AIR / *Caudal de aire* (Nm^3/h)

TOSACA
Safety relief valves

Set press	ORIFICE DESIGNATION													
(barg)	D	E	F	G	H	J	K	L	M	N	P	Q	R	T
0,2	56	105	159	274	420	656	944	1.490	1.878	2.234	3.308	5.720	8.208	13.412
0,5	71	133	201	347	532	831	1.197	1.889	2.380	2.832	4.193	7.251	10.405	17.002
1	96	180	272	469	719	1.123	1.618	2.554	3.218	3.829	5.668	9.803	14.067	22.984
2	146	273	414	713	1.093	1.708	2.460	3.883	4.893	5.823	8.619	14.906	21.390	34.950
3	196	367	556	957	1.468	2.293	3.302	5.213	6.568	7.816	11.570	20.009	28.713	46.915
4	246	460	698	1.202	1.842	2.878	4.144	6.542	8.243	9.809	14.521	25.112	36.036	58.881
5	296	554	839	1.446	2.216	3.463	4.987	7.872	9.918	11.803	17.471	30.215	43.359	70.846
6	346	648	981	1.690	2.591	4.048	5.829	9.201	11.593	13.796	20.422	35.318	50.682	82.812
7	396	741	1.123	1.934	2.965	4.633	6.671	10.531	13.268	15.790	23.373	40.421	58.005	94.777
8	446	835	1.265	2.178	3.339	5.218	7.513	11.860	14.943	17.783	26.324	45.524	65.328	106.742
9	496	928	1.406	2.423	3.714	5.802	8.356	13.190	16.618	19.776	29.275	50.628	72.651	118.708
10	546	1.022	1.548	2.667	4.088	6.387	9.198	14.519	18.293	21.770	32.225	55.731	79.974	130.673
12	646	1.209	1.832	3.155	4.837	7.557	10.882	17.178	21.643	25.757	38.127	65.937	94.620	154.604
14	746	1.396	2.115	3.644	5.585	8.727	12.567	19.837	24.993	29.743	44.029	76.143	109.266	178.535
16	846	1.583	2.399	4.132	6.334	9.897	14.251	22.496	28.343	33.730	49.930	86.349	123.912	202.466
18	946	1.771	2.682	4.620	7.082	11.066	15.935	25.155	31.693	37.717	55.832	96.556	138.558	226.396
20	1.045	1.958	2.966	5.109	7.831	12.236	17.620	27.814	35.043	41.704	61.733	106.762	153.204	250.327
22	1.145	2.145	3.249	5.597	8.580	13.406	19.304	30.473	38.393	45.691	67.635	116.968		
24	1.245	2.332	3.533	6.085	9.328	14.576	20.989	33.132	41.743	49.677	73.536	127.174		
26	1.345	2.519	3.816	6.574	10.077	15.745	22.673	35.791	45.093	53.664	79.438	137.381		
28	1.445	2.706	4.100	7.062	10.826	16.915	24.358	38.450	48.443	57.651	85.340	147.587		
30	1.545	2.894	4.383	7.551	11.574	18.085	26.042	41.109	51.793	61.638	91.241	157.793		
32	1.645	3.081	4.667	8.039	12.323	19.254	27.726	43.768	55.143	65.625	97.143	167.999		
34	1.745	3.268	4.950	8.527	13.071	20.424	29.411	46.427	58.493	69.612	103.044	178.205		
36	1.845	3.455	5.234	9.016	13.820	21.594	31.095	49.086	61.843	73.598	108.946	188.412		
38	1.945	3.642	5.517	9.504	14.569	22.764	32.780	51.745	65.193	77.585	114.848	198.618		
40	2.045	3.829	5.801	9.993	15.317	23.933	34.464	54.404	68.543	81.572	120.749	208.824		
50	2.545	4.765	7.218	12.434	19.061	29.782	42.886	67.699	85.293	101.506	150.257			
60	3.044	5.701	8.636	14.876	22.804	35.631	51.308	80.994	102.043	121.440	179.765			
70	3.544	6.637	10.053	17.318	26.547	41.480	59.731	94.289	118.793					
80	4.044	7.573	11.471	19.760	30.290	47.328	68.153	107.584						
90	4.544	8.508	12.888	22.202	34.033	53.177	76.575	120.878						
100	5.043	9.444	14.306	24.644	37.776	59.026	84.997	134.173						
120	6.043	11.316	17.141	29.528	45.263	70.723	101.841							
140	7.042	13.187	19.976	34.412	52.749	82.420	118.685							
160	8.042	15.059	22.811	39.296	60.235	94.118								
180	9.041	16.930	25.646	44.179	67.722	105.815								
200	10.041	18.802	28.481	49.063										
220	11.040	20.674	31.316	53.947										
240	12.040	22.545	34.151	58.831										
260	13.039	24.417	36.986											
280	14.039	26.288	39.821											
300	15.038	28.160	42.657											
350	17.537	32.839												
400	20.035	37.518												

E 2016

Flow capacity / *Caudal de aire* (Nm^3/h)
Overpressure / *Sobrepresión 10%*
Temperature / *Temperatura* 0º C
Calculation according / *Calculos según* ISO EN 4126-1 / API 520

Model 1415

Capacity AIR / *Caudal de aire* (S.C.F.M.)

TOSACA
Safety relief valves

US Units

Set press	ORIFICE DESIGNATION													
(psig)	D	E	F	G	H	J	K	L	M	N	P	Q	R	T
40	114	214	323	557	854	1.335	1.922	3.034	3.822	4.549	6.734	11.645	16.711	27.305
50	135	254	384	662	1.014	1.585	2.282	3.602	4.539	5.401	7.996	13.828	19.843	32.422
60	157	294	445	766	1.174	1.835	2.642	4.171	5.255	6.254	9.257	16.010	22.974	37.539
70	178	334	505	871	1.334	2.085	3.002	4.740	5.971	7.106	10.519	18.192	26.106	42.656
80	200	374	566	975	1.494	2.335	3.363	5.308	6.688	7.959	11.781	20.374	29.237	47.772
90	221	414	627	1.079	1.655	2.585	3.723	5.877	7.404	8.811	13.043	22.557	32.369	52.889
100	242	454	687	1.184	1.815	2.835	4.083	6.445	8.120	9.664	14.305	24.739	35.501	58.006
120	285	534	808	1.393	2.135	3.336	4.803	7.582	9.553	11.369	16.829	29.104	41.764	68.240
140	328	614	930	1.602	2.455	3.836	5.524	8.719	10.985	13.074	19.352	33.468	48.027	78.474
160	370	694	1.051	1.810	2.775	4.336	6.244	9.856	12.418	14.778	21.876	37.833	54.290	88.708
180	413	774	1.172	2.019	3.095	4.836	6.964	10.994	13.851	16.483	24.400	42.197	60.554	98.942
200	456	854	1.293	2.228	3.415	5.337	7.685	12.131	15.283	18.188	26.924	46.562	66.817	109.175
220	499	934	1.415	2.437	3.736	5.837	8.405	13.268	16.716	19.893	29.448	50.927	73.080	119.409
240	541	1.014	1.536	2.646	4.056	6.337	9.125	14.405	18.148	21.598	31.971	55.291	79.343	129.643
260	584	1.094	1.657	2.855	4.376	6.837	9.846	15.542	19.581	23.303	34.495	59.656	85.607	139.877
280	627	1.174	1.778	3.063	4.696	7.337	10.566	16.679	21.014	25.008	37.019	64.021	91.870	150.111
300	670	1.254	1.900	3.272	5.016	7.838	11.286	17.816	22.446	26.713	39.543	68.385	98.133	160.344
320	712	1.334	2.021	3.481	5.336	8.338	12.007	18.953	23.879	28.418	42.066	72.750		
340	755	1.414	2.142	3.690	5.656	8.838	12.727	20.090	25.312	30.123	44.590	77.114		
360	798	1.494	2.263	3.899	5.977	9.338	13.447	21.227	26.744	31.828	47.114	81.479		
380	841	1.574	2.385	4.108	6.297	9.839	14.168	22.364	28.177	33.533	49.638	85.844		
400	883	1.654	2.506	4.317	6.617	10.339	14.888	23.502	29.609	35.238	52.161	90.208		
420	926	1.734	2.627	4.525	6.937	10.839	15.608	24.639	31.042	36.943	54.685	94.573		
440	969	1.814	2.748	4.734	7.257	11.339	16.329	25.776	32.475	38.647	57.209	98.937		
460	1.012	1.894	2.870	4.943	7.577	11.839	17.049	26.913	33.907	40.352	59.733	103.302		
480	1.054	1.974	2.991	5.152	7.897	12.340	17.769	28.050	35.340	42.057	62.256	107.667		
500	1.097	2.054	3.112	5.361	8.218	12.840	18.490	29.187	36.772	43.762	64.780	112.031		
600	1.311	2.455	3.718	6.405	9.818	15.341	22.091	34.872	43.935	52.287	77.399			
700	1.525	2.855	4.324	7.449	11.419	17.842	25.693	40.558	51.099	60.811	90.018			
800	1.738	3.255	4.931	8.494	13.020	20.343	29.295	46.243	58.262					
900	1.952	3.655	5.537	9.538	14.621	22.845	32.896	51.929						
1000	2.166	4.055	6.143	10.582	16.221	25.346	36.498	57.614						
1100	2.379	4.455	6.749	11.626	17.822	27.847	40.099	63.300						
1200	2.593	4.856	7.355	12.671	19.423	30.348	43.701							
1300	2.807	5.256	7.962	13.715	21.023	32.849	47.303							
1400	3.020	5.656	8.568	14.759	22.624	35.350								
1500	3.234	6.056	9.174	15.804	24.225	37.851								
2000	4.303	8.057	12.205	21.025										
2500	5.371	10.058	15.236	26.246										
3000	6.440	12.059	18.267	31.468										
3500	7.508	14.060	21.298											
4000	8.577	16.061	24.329											
4500	9.645	18.062	27.360											
5000														
6000														

E 2016

Flow capacity / *Caudal de aire* (S.C.F.M.)
Overpressure / *Sobrepresión 10%*
Temperature / *Temperatura* 60º F
Calculation according / Calculos según ISO EN 4126-1 / API 520 / ASME Section VIII

Model 1415

Capacity SATURATED STEAM / *Caudal Vapor saturado* (kg/h)

TOSACA
Safety relief valves

Set press	ORIFICE DESIGNATION													
(barg)	D	E	F	G	H	J	K	L	M	N	P	Q	R	T
0,2	45	84	127	219	335	524	754	1.190	1.499	1.785	2.642	4.568	6.556	10.712
0,5	57	106	161	277	425	664	956	1.509	1.901	2.262	3.349	5.791	8.310	13.578
1	77	144	217	375	574	897	1.292	2.040	2.570	3.058	4.527	7.829	11.234	18.356
2	117	218	331	570	873	1.364	1.965	3.101	3.907	4.650	6.884	11.904	17.083	27.913
3	156	293	444	765	1.172	1.831	2.637	4.163	5.245	6.242	9.240	15.980	22.931	37.469
4	196	368	557	960	1.471	2.299	3.310	5.225	6.583	7.834	11.597	20.056	28.780	47.025
5	236	443	670	1.155	1.770	2.766	3.983	6.287	7.921	9.426	13.953	24.131	34.628	56.581
6	276	517	784	1.350	2.069	3.233	4.655	7.349	9.258	11.018	16.310	28.207	40.477	66.137
7	316	592	897	1.545	2.368	3.700	5.328	8.410	10.596	12.610	18.667	32.282	46.325	75.693
8	356	667	1.010	1.740	2.667	4.167	6.000	9.472	11.934	14.202	21.023	36.358	52.174	85.249
9	396	741	1.123	1.935	2.966	4.634	6.673	10.534	13.272	15.794	23.380	40.433	58.022	94.805
10	436	816	1.236	2.130	3.265	5.101	7.346	11.596	14.609	17.386	25.737	44.509	63.871	104.361
12	516	966	1.463	2.520	3.863	6.035	8.691	13.719	17.285	20.570	30.450	52.660	75.567	123.474
14	596	1.115	1.689	2.910	4.461	6.970	10.036	15.843	19.960	23.754	35.163	60.811	87.264	142.586
16	675	1.265	1.916	3.300	5.058	7.904	11.381	17.966	22.636	26.938	39.876	68.962	98.961	161.698
18	755	1.414	2.142	3.690	5.656	8.838	12.727	20.090	25.311	30.122	44.590	77.114	110.658	180.810
20	835	1.564	2.368	4.080	6.254	9.772	14.072	22.214	27.987	33.307	49.303	85.265	122.355	199.922
22	915	1.713	2.595	4.470	6.852	10.706	15.417	24.337	30.662	36.491	54.016	93.416		
24	995	1.863	2.821	4.860	7.450	11.641	16.763	26.461	33.338	39.675	58.729	101.567		
26	1.074	2.012	3.048	5.250	8.048	12.575	18.108	28.584	36.013	42.859	63.443	109.718		
28	1.154	2.161	3.274	5.640	8.646	13.509	19.453	30.708	38.689	46.043	68.156	117.869		
30	1.234	2.311	3.501	6.030	9.244	14.443	20.798	32.831	41.364	49.227	72.869	126.020		
32	1.314	2.460	3.727	6.420	9.842	15.377	22.144	34.955	44.040	52.411	77.582	134.172		
34	1.394	2.610	3.953	6.810	10.439	16.312	23.489	37.079	46.715	55.595	82.296	142.323		
36	1.474	2.759	4.180	7.200	11.037	17.246	24.834	39.202	49.391	58.779	87.009	150.474		
38	1.553	2.909	4.406	7.590	11.635	18.180	26.179	41.326	52.066	61.963	91.722	158.625		
40	1.633	3.058	4.633	7.980	12.233	19.114	27.525	43.449	54.742	65.147	96.436	166.776		
50	2.032	3.806	5.765	9.931	15.223	23.785	34.251	54.067	68.119	81.067	120.002			
60	2.431	4.553	6.897	11.881	18.212	28.456	40.977	64.685	81.496	96.987	143.568			
70	2.831	5.300	8.029	13.831	21.202	33.127	47.703	75.303	94.874					
80	3.230	6.048	9.161	15.781	24.191	37.798	54.430	85.921						
90	3.629	6.795	10.293	17.732	27.180	42.469	61.156	96.539						
100	4.028	7.542	11.425	19.682	30.170	47.140	67.882	107.157						
120	4.826	9.037	13.689	23.582	36.149	56.483	81.335							
140	5.624	10.532	15.954	27.483	42.128	65.825	94.787							
160	6.423	12.027	18.218	31.383	48.107	75.167								
180	7.221	13.521	20.482	35.284	54.086	84.509								
200	8.019	15.016	22.746	39.184										

E 2016

Flow capacity / Caudal (kg/h)
Overpressure / Sobrepresión 10%
Calculation according / Calculos según ISO EN 4126-1 / API 520

Model 1415

Capacity SATURATED STEAM / *Caudal Vapor saturado* (lb/h)

TOSACA
Safety relief valves

US Units

Set press	ORIFICE DESIGNATION													
(psig)	D	E	F	G	H	J	K	L	M	N	P	Q	R	T
15	172	322	488	840	1.288	2.013	2.899	4.576	5.765	6.861	10.155	17.563	25.203	41.180
20	202	379	574	989	1.515	2.368	3.410	5.382	6.781	8.070	11.946	20.659	29.646	48.440
30	263	492	746	1.285	1.970	3.077	4.432	6.996	8.814	10.489	15.526	26.852	38.532	62.960
40	324	606	918	1.581	2.424	3.787	5.454	8.609	10.846	12.908	19.107	33.044	47.418	77.479
50	384	720	1.090	1.878	2.878	4.497	6.476	10.222	12.879	15.327	22.688	39.236	56.304	91.999
60	445	833	1.262	2.174	3.332	5.207	7.498	11.835	14.911	17.746	26.268	45.429	65.191	106.518
70	506	947	1.434	2.470	3.786	5.916	8.520	13.449	16.944	20.165	29.849	51.621	74.077	121.038
80	566	1.060	1.606	2.766	4.241	6.626	9.542	15.062	18.976	22.583	33.430	57.814	82.963	135.557
90	627	1.174	1.778	3.063	4.695	7.336	10.564	16.675	21.009	25.002	37.011	64.006	91.849	150.077
100	687	1.287	1.950	3.359	5.149	8.045	11.586	18.288	23.042	27.421	40.591	70.199	100.735	164.596
120	809	1.514	2.294	3.952	6.058	9.465	13.629	21.515	27.107	32.259	47.753	82.583	118.508	193.636
140	930	1.741	2.638	4.544	6.966	10.884	15.673	24.742	31.172	37.097	54.914	94.968	136.280	222.675
160	1.051	1.969	2.982	5.137	7.874	12.304	17.717	27.968	35.237	41.935	62.075	107.353	154.052	251.714
180	1.173	2.196	3.326	5.730	8.783	13.723	19.761	31.195	39.302	46.773	69.237	119.738	171.825	280.753
200	1.294	2.423	3.670	6.322	9.691	15.143	21.805	34.421	43.367	51.610	76.398	132.123	189.597	309.792
220	1.415	2.650	4.014	6.915	10.600	16.562	23.849	37.648	47.432	56.448	83.559	144.508	207.369	338.831
240	1.536	2.877	4.358	7.508	11.508	17.982	25.893	40.874	51.497	61.286	90.721	156.893	225.141	367.870
260	1.658	3.104	4.702	8.100	12.417	19.401	27.937	44.101	55.563	66.124	97.882	169.277	242.914	396.909
280	1.779	3.331	5.046	8.693	13.325	20.820	29.981	47.328	59.628	70.962	105.043	181.662	260.686	425.948
300	1.900	3.558	5.390	9.285	14.233	22.240	32.025	50.554	63.693	75.800	112.205	194.047	278.458	454.987
320	2.022	3.785	5.734	9.878	15.142	23.659	34.069	53.781	67.758	80.637	119.366	206.432		
340	2.143	4.013	6.078	10.471	16.050	25.079	36.113	57.007	71.823	85.475	126.527	218.817		
360	2.264	4.240	6.422	11.063	16.959	26.498	38.157	60.234	75.888	90.313	133.689	231.202		
380	2.385	4.467	6.766	11.656	17.867	27.918	40.201	63.460	79.953	95.151	140.850	243.586		
400	2.507	4.694	7.110	12.249	18.776	29.337	42.245	66.687	84.018	99.989	148.011	255.971		
420	2.628	4.921	7.454	12.841	19.684	30.756	44.289	69.914	88.083	104.827	155.173	268.356		
440	2.749	5.148	7.798	13.434	20.593	32.176	46.333	73.140	92.149	109.664	162.334	280.741		
460	2.871	5.375	8.142	14.027	21.501	33.595	48.377	76.367	96.214	114.502	169.495	293.126		
480	2.992	5.602	8.486	14.619	22.409	35.015	50.421	79.593	100.279	119.340	176.657	305.511		
500	3.113	5.829	8.830	15.212	23.318	36.434	52.465	82.820	104.344	124.178	183.818	317.896		
600	3.719	6.965	10.551	18.175	27.860	43.531	62.685	98.953	124.670	148.367	219.625	379.820		
700	4.326	8.101	12.271	21.138	32.402	50.628	72.905	115.085	144.995	172.556	255.431	441.744		
800	4.932	9.236	13.991	24.101	36.944	57.726	83.125	131.218	165.321	196.745	291.238			
900	5.539	10.372	15.711	27.064	41.487	64.823	93.345	147.351	185.646	220.935	327.045			
1000	6.145	11.507	17.431	30.028	46.029	71.920	103.565	163.484	205.972	245.124	362.851			
1100	6.752	12.643	19.151	32.991	50.571	79.017	113.785	179.617	226.298					
1200	7.358	13.778	20.871	35.954	55.113	86.114	124.005	195.750						
1300	7.964	14.914	22.591	38.917	59.655	93.212	134.225	211.882						
1400	8.571	16.049	24.311	41.880	64.198	100.309	144.444	228.015						
1500	9.177	17.185	26.032	44.844	68.740	107.406	154.664	244.148						
2000	12.209	22.863	34.632	59.659	91.451	142.892	205.764							
2500	15.241	28.540	43.233	74.475	114.162	178.378								

E 2016

Flow capacity / Caudal (lb/h)
Overpressure / Sobrepresión 10%
Calculation according / Calculos según ISO EN 4126-1 / API 520 / ASME Section VIII

Model 1415

Capacity WATER / *Caudal de Agua* (kg/h)

TOSACA
Safety relief valves

Set press	ORIFICE DESIGNATION													
(barg)	D	E	F	G	H	J	K	L	M	N	P	Q	R	T
0,2	1.083	2.029	3.073	5.294	8.115	12.679	18.258	28.821	36.312	43.214	63.968	110.627	158.750	259.390
0,5	1.713	3.208	4.859	8.370	12.830	20.047	28.868	45.570	57.414	68.327	101.143	174.917	251.007	410.132
1	2.422	4.536	6.871	11.837	18.145	28.351	40.826	64.446	81.195	96.629	143.038	247.370	354.977	580.015
2	3.426	6.415	9.718	16.740	25.661	40.095	57.736	91.141	114.827	136.654	202.286	349.834	502.013	820.265
3	4.196	7.857	11.902	20.502	31.428	49.106	70.712	111.624	140.634	167.366	247.748	428.457	614.838	1.004.615
4	4.845	9.072	13.743	23.674	36.290	56.702	81.651	128.892	162.390	193.258	286.075	494.740	709.954	1.160.029
5	5.417	10.143	15.365	26.468	40.573	63.395	91.289	144.106	181.558	216.069	319.842	553.136	793.752	1.296.952
6	5.934	11.111	16.831	28.995	44.445	69.446	100.002	157.860	198.887	236.691	350.369	605.930	869.512	1.420.740
7	6.409	12.002	18.180	31.318	48.006	75.010	108.015	170.508	214.822	255.656	378.442	654.479	939.180	1.534.575
8	6.852	12.830	19.435	33.480	51.321	80.189	115.472	182.281	229.654	273.308	404.571	699.668	1.004.026	1.640.529
9	7.267	13.609	20.614	35.511	54.434	85.054	122.477	193.338	243.585	289.887	429.113	742.110	1.064.930	1.740.044
10	7.660	14.345	21.729	37.432	57.379	89.654	129.102	203.796	256.761	305.567	452.324	782.252	1.122.535	1.834.167
12	8.392	15.714	23.803	41.005	62.855	98.211	141.424	223.248	281.268	334.732	495.497	856.914	1.229.676	2.009.230
14	9.064	16.973	25.710	44.290	67.891	106.080	152.756	241.135	303.804	361.552	535.197	925.573	1.328.202	2.170.216
16	9.690	18.145	27.486	47.348	72.579	113.405	163.303	257.784	324.780	386.515	572.150	989.479	1.419.907	2.320.059
18	10.278	19.245	29.153	50.220	76.982	120.284	173.209	273.422	344.482	409.961	606.857	1.049.501	1.506.039	2.460.794
20	10.833	20.286	30.730	52.937	81.146	126.790	182.578	288.212	363.115	432.137	639.683	1.106.272	1.587.505	2.593.904
22	11.362	21.277	32.230	55.521	85.106	132.979	191.489	302.279	380.839	453.229	670.906	1.160.267		
24	11.867	22.223	33.663	57.989	88.891	138.892	200.004	315.720	397.773	473.383	700.738	1.211.860		
26	12.352	23.130	35.037	60.357	92.520	144.563	208.171	328.612	414.015	492.712	729.351	1.261.344		
28	12.818	24.003	36.360	62.636	96.013	150.020	216.029	341.017	429.644	511.312	756.884	1.308.958		
30	13.268	24.846	37.636	64.834	99.383	155.286	223.612	352.986	444.724	529.258	783.449	1.354.900		
32	13.703	25.661	38.870	66.960	102.642	160.378	230.945	364.562	459.309	546.615	809.142	1.399.335		
34	14.125	26.450	40.067	69.021	105.801	165.314	238.053	375.782	473.445	563.438	834.045	1.442.402		
36	14.535	27.217	41.228	71.022	108.869	170.107	244.954	386.676	487.170	579.773	858.225	1.484.219		
38	14.933	27.963	42.358	72.968	111.852	174.768	251.666	397.272	500.520	595.660	881.743	1.524.890		
40	15.321	28.689	43.458	74.864	114.757	179.309	258.204	407.593	513.523	611.134	904.649	1.564.504		
50	17.129	32.076	48.588	83.700	128.303	200.473	288.681	455.703	574.136	683.269	1.011.428			
60	18.764	35.137	53.226	91.689	140.549	219.607	316.234	499.197	628.934	748.484	1.107.964			
70	20.268	37.952	57.490	99.036	151.810	237.203	341.572	539.195	679.327					
80	21.667	40.573	61.460	105.874	162.292	253.581	365.156	576.423						
90	22.981	43.034	65.188	112.296	172.136	268.963	387.306	611.389						
100	24.224	45.362	68.714	118.370	181.448	283.512	408.257	644.461						
120	26.536	49.691	75.272	129.668	198.766	310.572	447.223							
140	28.663	53.673	81.303	140.058	214.692	335.456	483.056							
160	30.642	57.379	86.917	149.728	229.515	358.617								
180	32.500	60.859	92.189	158.810	243.437	380.371								
200	34.258	64.151	97.176	167.401										
220	35.930	67.283	101.919	175.572										
240	37.528	70.274	106.451	183.379										
260	39.061	73.144	110.798											
280	40.535	75.905	114.980											
300	41.958	78.569	119.016											
350	45.320	84.864												
400	48.449	90.724												

E 2016

Flow capacity / Caudal (kg/h)
Overpressure / Sobrepresión 10%
Calculation according / Calculos según ISO EN 4126-1 / API 520

Model 1415

Capacity WATER / *Caudal de Agua* (gpm)

TOSACA
Safety relief valves

US Units

Set press	ORIFICE DESIGNATION													
(psig)	D	E	F	G	H	J	K	L	M	N	P	Q	R	T
15	11	20	31	53	81	127	183	288	363	432	640	1.107	1.588	2.595
20	13	23	35	61	94	146	211	333	419	499	739	1.278	1.834	2.996
30	15	29	43	75	115	179	258	408	514	611	905	1.565	2.246	3.670
40	18	33	50	86	133	207	298	471	593	706	1.045	1.807	2.593	4.237
50	20	37	56	97	148	232	333	526	663	789	1.168	2.020	2.899	4.738
60	22	41	61	106	162	254	365	577	726	865	1.280	2.213	3.176	5.190
70	23	44	66	114	175	274	395	623	785	934	1.382	2.391	3.431	5.605
80	25	47	71	122	187	293	422	666	839	998	1.478	2.556	3.668	5.993
90	27	50	75	130	199	311	447	706	890	1.059	1.567	2.711	3.890	6.356
100	28	52	79	137	210	327	472	744	938	1.116	1.652	2.857	4.100	6.700
120	31	57	87	150	230	359	517	815	1.027	1.223	1.810	3.130	4.492	7.339
140	33	62	94	162	248	387	558	881	1.110	1.321	1.955	3.381	4.852	7.927
160	35	66	100	173	265	414	597	942	1.186	1.412	2.090	3.614	5.187	8.475
180	38	70	106	183	281	439	633	999	1.258	1.498	2.217	3.834	5.501	8.989
200	40	74	112	193	296	463	667	1.053	1.326	1.579	2.337	4.041	5.799	9.475
220	42	78	118	203	311	486	699	1.104	1.391	1.656	2.451	4.238	6.082	9.937
240	43	81	123	212	325	507	731	1.153	1.453	1.729	2.560	4.427	6.352	10.379
260	45	84	128	220	338	528	760	1.200	1.512	1.800	2.664	4.607	6.612	10.803
280	47	88	133	229	351	548	789	1.246	1.569	1.868	2.765	4.781	6.861	11.211
300	48	91	137	237	363	567	817	1.289	1.624	1.933	2.862	4.949		
320	50	94	142	245	375	586	844	1.332	1.678	1.997	2.956	5.111		
340	52	97	146	252	386	604	870	1.373	1.729	2.058	3.047	5.269		
360	53	99	151	259	398	621	895	1.412	1.780	2.118	3.135	5.422		
380	55	102	155	267	409	638	919	1.451	1.828	2.176	3.221	5.570		
400	56	105	159	273	419	655	943	1.489	1.876	2.232	3.304	5.715		
420	57	107	163	280	430	671	966	1.526	1.922	2.287	3.386	5.856		
440	59	110	166	287	440	687	989	1.562	1.967	2.341	3.466	5.994		
460	60	112	170	293	450	702	1.011	1.597	2.012	2.394	3.544	6.128		
480	61	115	174	300	459	717	1.033	1.631	2.055	2.445	3.620	6.260		
500	63	117	177	306	469	732	1.054	1.665	2.097	2.496	3.695	6.389		
600	69	128	194	335	513	802	1.155	1.823	2.297	2.734	4.047	6.999		
700	74	139	210	362	555	866	1.248	1.970	2.481	2.953	4.371			
800	79	148	224	387	593	926	1.334	2.106	2.653	3.157	4.673			
900	84	157	238	410	629	982	1.415	2.233	2.814					
1000	88	166	251	432	663	1.036	1.491	2.354						
1100	93	174	263	453	695	1.086	1.564	2.469						
1200	97	182	275	474	726	1.134	1.634	2.579						
1300	101	189	286	493	756	1.181	1.700	2.684						
1400	105	196	297	512	784	1.225								
1500	108	203	307	530	812	1.268								
2000	125	234	355	611	937	1.465								
2500	140	262	397	684	1.048	1.637								
3000	153	287	435	749	1.148									
4000	177	331	502											
5000	198	371												

E 2016

Flow capacity / Caudal (gpm)
Overpressure / Sobrepresión 10%
Calculation according / Calculos según ISO EN 4126-1 / API 520 / ASME Section VIII