

Flow-Charts

Diam. D		l/min.	Pressure / Druck / Pression, P (bar)									
mm	inch		1 (K)	200	300	400	500	600	700	800	1000	1200
0.70	0.028	0.29	4.1	5.0	5.8	6.5	7.1	7.7	8.2	9.2	10.1	11.2
0.75	0.030	0.33	4.7	5.8	6.7	7.5	8.2	8.8	9.4	10.5	11.5	12.9
0.80	0.031	0.38	5.4	6.6	7.6	8.5	9.3	10.0	10.7	12.0	13.1	14.7
0.85	0.033	0.43	6.1	7.4	8.6	9.6	10.5	11.3	12.1	13.5	14.8	16.6
0.90	0.035	0.48	6.8	8.3	9.6	10.7	11.8	12.7	13.6	15.2	16.6	18.6
0.95	0.037	0.53	7.6	9.3	10.7	12.0	13.1	14.1	15.1	16.9	18.5	20.7
1.00	0.039	0.59	8.4	10.3	11.9	13.2	14.5	15.7	16.8	18.7	20.5	22.9
1.05	0.041	0.65	9.2	11.3	13.1	14.6	16.0	17.3	18.5	20.7	22.6	25.3
1.10	0.043	0.72	10.1	12.4	14.3	16.0	17.6	19.0	20.3	22.7	24.8	27.8
1.15	0.045	0.78	11.1	13.6	15.7	17.5	19.2	20.7	22.2	24.8	27.1	30.3
1.20	0.047	0.85	12.1	14.8	17.1	19.1	20.9	22.6	24.1	27.0	29.6	33.0
1.25	0.049	0.93	13.1	16.0	18.5	20.7	22.7	24.5	26.2	29.3	32.1	35.9
1.30	0.051	1.00	14.2	17.3	20.0	22.4	24.5	26.5	28.3	31.7	34.7	38.8
1.35	0.053	1.08	15.3	18.7	21.6	24.1	26.5	28.6	30.5	34.1	37.4	41.8
1.40	0.055	1.16	16.4	20.1	23.2	26.0	28.4	30.7	32.8	36.7	40.2	45.0
1.45	0.057	1.25	17.6	21.6	24.9	27.9	30.5	33.0	35.2	39.4	43.2	48.2
1.50	0.059	1.33	18.9	23.1	26.7	29.8	32.7	35.3	37.7	42.2	46.2	51.6
1.55	0.061	1.42	20.1	24.7	28.5	31.8	34.9	37.7	40.3	45.0	49.3	55.1
1.60	0.063	1.52	21.5	26.3	30.3	33.9	37.2	40.1	42.9	48.0	52.5	58.7
1.65	0.065	1.61	22.8	27.9	32.3	36.1	39.5	42.7	45.6	51.0	55.9	62.5
1.70	0.067	1.71	24.2	29.7	34.2	38.3	41.9	45.3	48.4	54.1	59.3	66.3
1.75	0.069	1.81	25.7	31.4	36.3	40.6	44.4	48.0	51.3	57.4	62.9	70.3
1.80	0.071	1.92	27.1	33.3	38.4	42.9	47.0	50.8	54.3	60.7	66.5	74.3
1.85	0.073	2.03	28.7	35.1	40.6	45.3	49.7	53.7	57.4	64.1	70.2	78.5
1.90	0.075	2.14	30.2	37.0	42.8	47.8	52.4	56.6	60.5	67.6	74.1	82.8
1.95	0.077	2.25	31.9	39.0	45.1	50.4	55.2	59.6	63.7	71.2	78.0	87.3
2.00	0.079	2.37	33.5	41.0	47.4	53.0	58.1	62.7	67.0	74.9	82.1	91.8
2.05	0.081	2.49	35.2	43.1	49.8	55.7	61.0	65.9	70.4	78.7	86.3	96.4
2.10	0.083	2.61	37.0	45.3	52.3	58.4	64.0	69.1	73.9	82.6	90.5	101.2
2.20	0.087	2.87	40.6	49.7	57.4	64.1	70.2	75.9	81.1	90.7	99.3	111.1
2.40	0.094	3.41	48.3	59.1	68.3	76.3	83.6	90.3	96.5	107.9	118.2	132.2
2.60	0.102	4.01	56.6	69.4	80.1	89.6	98.1	106.0	113.3	126.7	138.7	155.1
2.80	0.110	4.65	65.7	80.5	92.9	103.9	113.8	122.9	131.4	146.9	160.9	179.9

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Pressure and flow rate / Druck und Durchflussmengen / La Pression et le débit

* The broken line indicates the limiting value of 25 kg for the reactive force for manual work.

* Die gebrochene Linie gibt die max. zulässige Rückstosskraft von 25 kg für manuellen Einsatz.

* Le trait brisé indique la valeur de la force de réaction limite de 25 kg pour travail manuel

Diam. D		l/min.	Pressure / Druck / Pression, P (bar)									
mm	inch		1 (K)	1600	1700	1800	1900	2000	2100	2200	2300	2400
0.40	0.016	0.09	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7
0.45	0.018	0.12	4.8	4.9	5.1	5.2	5.4	5.5	5.6	5.8	5.9	6.0
0.50	0.020	0.15	5.9	6.1	6.3	6.5	6.6	6.8	6.9	7.1	7.3	7.4
0.55	0.022	0.18	7.2	7.4	7.6	7.8	8.0	8.2	8.4	8.6	8.8	9.0
0.60	0.024	0.21	8.5	8.8	9.0	9.3	9.5	9.8	10.0	10.2	10.4	10.7
0.65	0.026	0.25	10.0	10.3	10.6	10.9	11.2	11.5	11.7	12.0	12.3	12.5
0.70	0.028	0.29	11.6	12.0	12.3	12.7	13.0	13.3	13.6	13.9	14.2	14.5
0.75	0.030	0.33	13.3	13.7	14.1	14.5	14.9	15.3	15.6	16.0	16.3	16.7
0.80	0.031	0.38	15.2	15.6	16.1	16.5	17.0	17.4	17.8	18.2	18.6	19.0
0.85	0.033	0.43	17.1	17.7	18.2	18.7	19.1	19.6	20.1	20.5	21.0	21.4
0.90	0.035	0.48	19.2	19.8	20.4	20.9	21.5	22.0	22.5	23.0	23.5	24.0
0.95	0.037	0.53	21.4	22.0	22.7	23.3	23.9	24.5	25.1	25.6	26.2	26.7
1.00	0.039	0.59	23.7	24.4	25.1	25.8	26.5	27.2	27.8	28.4	29.0	29.6
1.05	0.041	0.65	26.1	26.9	27.7	28.5	29.2	29.9	30.6	31.3	32.0	32.7
1.10	0.043	0.72	28.7	29.6	30.4	31.3	32.1	32.9	33.6	34.4	35.1	35.8
1.15	0.045	0.78	31.3	32.3	33.2	34.2	35.0	35.9	36.8	37.6	38.4	39.2
1.20	0.047	0.85	34.1	35.2	36.2	37.2	38.2	39.1	40.0	40.9	41.8	42.7
1.25	0.049	0.93	37.0	38.2	39.3	40.4	41.4	42.4	43.4	44.4	45.4	46.3
1.30	0.051	1.00	40.1	41.3	42.5	43.6	44.8	45.9	47.0	48.0	49.1	50.1
1.35	0.053	1.08	43.2	44.5	45.8	47.1	48.3	49.5	50.6	51.8	52.9	54.0
1.40	0.055	1.16	46.5	47.9	49.3	50.6	51.9	53.2	54.5	55.7	56.9	58.1
1.45	0.057	1.25	49.8	51.4	52.9	54.3	55.7	57.1	58.4	59.7	61.0	62.3
1.50	0.059	1.33	53.3	55.0	56.6	58.1	59.6	61.1	62.5	63.9	65.3	66.7
1.55	0.061	1.42	56.9	58.7	60.4	62.0	63.7	65.2	66.8	68.3	69.7	71.2
1.60	0.063	1.52	60.7	62.5	64.4	66.1	67.8	69.5	71.1	72.7	74.3	75.8
1.65	0.065	1.61	64.5	66.5	68.4	70.3	72.1	73.9	75.7	77.4	79.0	80.7

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$$Q (l / \text{min}) = K \times \sqrt{P}$$

**Please indicate with the order / Bitte bei Bestellungen angeben / Indiquez lors de la commande:
Pressure and flow rate / Druck und Durchflussmengen / La pression et le débit**

* The broken line indicates the limiting value of 25 kg for the reactive force for manual work.

* Die gebrochene Linie gibt die max. zulässige Rückstosskraft von 25 kg für manuellen Einsatz.

* Le trait brisé indique la valeur de la force de réaction limite de 25 kg pour travail manuel.

Flow-Chart

Flow rate - Durchflussmenge - Débit (l/min.)										
d Orifice/Düse (mm)	Pressure - Wasserüberdruck - Pression, (bar)									
	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000
0.080	0.143	0.153	0.162	0.171	0.180	0.188	0.195	0.203	0.210	0.217
0.100	0.224	0.239	0.254	0.268	0.281	0.293	0.305	0.317	0.328	0.338
0.125	0.350	0.374	0.397	0.418	0.438	0.458	0.477	0.495	0.512	0.529
0.150	0.504	0.538	0.571	0.602	0.631	0.659	0.686	0.712	0.737	0.761
0.175	0.685	0.733	0.777	0.819	0.859	0.897	0.934	0.969	1.003	1.036
0.200	0.895	0.957	1.015	1.070	1.122	1.172	1.220	1.266	1.310	1.353
0.250	1.399	1.495	1.586	1.672	1.753	1.831	1.906	1.978	2.048	2.115
0.300	2.014	2.153	2.284	2.408	2.525	2.637	2.745	2.849	2.949	3.045
0.350	2.742	2.931	3.109	3.277	3.437	3.590	3.736	3.877	4.013	4.145
0.400	3.581	3.828	4.060	4.280	4.489	4.689	4.880	5.064	5.242	5.414
0.450	4.532	4.845	5.139	5.417	5.681	5.934	6.176	6.409	6.634	6.852
0.500	5.595	5.981	6.344	6.688	7.014	7.326	7.625	7.913	8.190	8.459
0.550	6.770	7.238	7.677	8.092	8.487	8.864	9.226	9.574	9.910	10.236
0.600	8.057	8.613	9.136	9.630	10.100	10.549	10.980	11.394	11.794	12.181
0.650	9.456	10.109	10.722	11.302	11.854	12.381	12.886	13.373	13.842	14.296
0.700	10.967	11.724	12.435	13.108	13.747	14.359	14.945	15.509	16.053	16.580
0.750	12.589	13.458	14.275	15.047	15.781	16.483	17.156	17.804	18.429	19.033
0.800	14.324	15.313	16.241	17.120	17.956	18.754	19.520	20.257	20.968	21.655
0.850	16.170	17.286	18.335	19.327	20.270	21.172	22.036	22.868	23.670	24.447
0.900	18.128	19.380	20.556	21.668	22.725	23.736	24.705	25.637	26.537	27.407
0.950	20.199	21.593	22.903	24.142	25.320	26.446	27.526	28.565	29.568	30.537
1.000	22.381	23.926	25.377	26.750	28.056	29.303	30.500	31.651	32.762	33.836
1.100	27.081	28.950	30.707	32.368	33.947	35.457	36.905	38.298	39.642	40.942
1.200	32.228	34.453	36.543	38.520	40.400	42.197	43.920	45.577	47.177	48.724
1.300	37.823	40.435	42.888	45.208	47.414	49.522	51.544	53.490	55.368	57.183
1.400	43.866	46.895	49.739	52.430	54.989	57.434	59.779	62.036	64.213	66.319
1.500	50.356	53.833	57.099	60.188	63.125	65.932	68.624	71.215	73.714	76.132

There is a good concordance between values above and substantial ones. But the optimal nozzles diameter for your equipment should be determined by carrying out experimental trials.

Die oben angegebenen Werte sind Annäherungswerte. Die genauen Düsendurchmesser können jedoch nur mit Versuchen auf Ihrer Maschine festgelegt werden.

La consommation exacte approche les valeurs données ci-dessus. Mais la grandeur optimale des buses de votre appareillage ne peut être déterminée que par des essais.