

HALE

HALE PRODUCTS INC.
A UNIT OF IDEX CORPORATION

NOZZLE PRESS.	GPM AT VARIOUS NOZZLE SIZES							
	1/2"	5/8"	3/4"	7/8"	1"	1-1/8"	1-1/4"	1-3/8"
30	41	64	92	125	163	206	254	308
35	44	69	99	135	176	222	275	332
40	47	73	106	144	188	238	294	355
45	50	78	112	153	199	252	311	377
50	53	82	118	161	210	266	328	397
55	55	86	124	169	220	279	344	417
60	58	90	130	176	230	291	360	435
62	58	91	132	179	234	296	366	442
64	59	93	134	182	238	301	371	449
66	60	94	136	185	241	305	377	456
68	61	96	138	188	245	310	383	463
70	62	97	140	190	248	315	388	470
72	63	99	142	193	252	319	394	477
74	64	100	144	196	255	323	399	483
76	65	101	146	198	259	328	405	490
78	66	103	148	201	262	332	410	496
80	66	104	150	203	266	336	415	502
85	68	107	154	210	274	347	428	518
90	70	110	159	216	282	357	440	533
95	72	113	163	222	289	366	452	547
100	74	116	167	228	297	376	464	562
105	76	119	171	233	304	385	476	575
110	78	122	175	239	311	394	487	589
115	80	125	179	244	319	403	498	602
120	81	127	183	249	325	412	509	615

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NOZZLE PRESS.	GPM AT VARIOUS NOZZLE SIZES							
	1-1/2"	1-5/8"	1-3/4"	1-7/8"	2"	2-1/4"	2-1/2"	3"
30	366	430	498	572	651	824	1017	1464
35	395	464	538	618	703	890	1098	1581
40	423	496	575	660	751	951	1174	1691
45	448	525	610	700	797	1009	1245	1793
50	473	555	643	738	840	1063	1313	1890
55	496	582	675	774	881	1115	1377	1982
60	518	608	705	809	920	1165	1438	2071
62	526	618	716	822	935	1184	1462	2105
64	535	628	728	835	950	1203	1485	2138
66	543	637	739	848	965	1222	1508	2172
68	551	647	750	861	980	1240	1531	2204
70	559	656	761	874	994	1258	1553	2236
72	567	666	772	886	1008	1276	1575	2268
74	575	675	783	898	1022	1293	1597	2299
76	583	684	793	910	1036	1311	1618	2330
78	590	693	803	922	1049	1328	1639	2361
80	598	702	814	934	1063	1345	1660	2391
85	616	723	839	963	1095	1386	1711	2465
90	634	744	863	991	1127	1427	1761	2536
95	651	765	887	1018	1158	1466	1809	2605
100	668	784	910	1044	1188	1504	1856	2673
105	685	804	932	1070	1217	1541	1902	2739
110	701	823	954	1095	1246	1577	1947	2803
115	717	841	976	1120	1274	1613	1991	2867
120	732	859	997	1144	1301	1647	2034	2928

HOSE FRICTION LOSS (PSI PER 100 FEET)

GPM Flowing	3/4" Booster	1" Booster	1-1/2" Hose	GPM Flowing	1-3/4" Hose with 1-1/2" Couplings	2" Hose with 1-1/2" Couplings	2 1/2" Hose	3" Hose with 2-1/2" Couplings	3" Hose	GPM Flowing	3 1/2" Hose	4" Hose	5" Hose
10	13.5	3.5		95	14	8				500	9.5	3	
20	44	6		125	24	13				750	20	11	5
30	99	14		150	35	18				1000	34	20	8
40	176	24	4	175	47	25	6			1250	53	31	13
50		38	7	200	62	32	8			1500	74	45	18
60		54	9	225			10			1750		61	25
70			12	250			13	5	4	2000			32
80			15	275			15						
95			22	300			18						
125			38	325			22	8					
150			54	350			25		8				
				500				20	17				
				750				45	38				
				1000				80	68				

NOTE: Add 5 PSI for each story of building and each wye or siamese.
 Friction Loss Calculation Courtesy IFSTA.

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DATA FOR PRACTICAL USE

WATER HORSE POWER =

GALLONS PER MINUTE X TOTAL HEAD IN POUNDS PER SQUARE INCH

1712

ONE GALLON WATER WEIGHS 8.33 POUNDS

ONE GALLON = 231 CUBIC INCHES

ONE CUBIC FOOT = 7.48 GALLONS

ONE POUND PER SQUARE INCH OF HEAD = 2.31 FEET HEAD OF WATER

ONE INCH OF MERCURY = 1.132 FEET OF WATER

ONE POUND PER SQUARE INCH = 2.0178 INCHES OF MERCURY = 27.68
INCHES OF WATER

POUNDS PER SQUARE INCH = FEET HEAD X .433

FEET HEAD = POUNDS PRESSURE X 2.31

ONE GALLON PER MINUTE X 3.785 = ONE LITER PER MINUTE

ONE CUBIC METER = 1000 LITERS

ONE IMPERIAL GALLON = 1.2 GALLONS

ONE POUND PER SQUARE INCH X .0690 = ONE BAR = .001 KPA

ONE BAR = 14.50 PSI

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