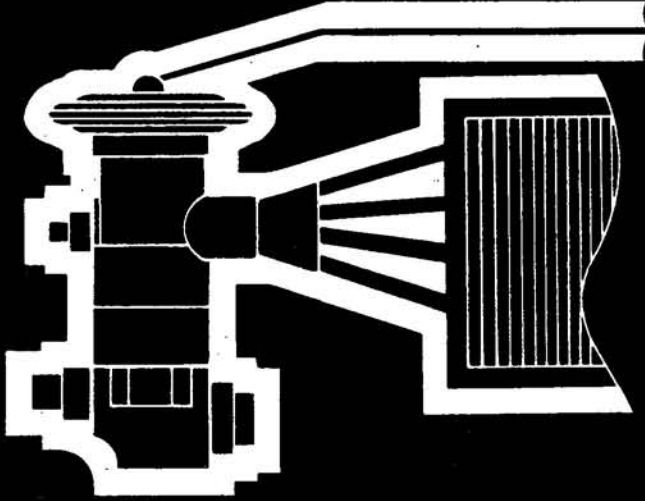


NOZZLE-TYPE REFRIGERANT DISTRIBUTORS

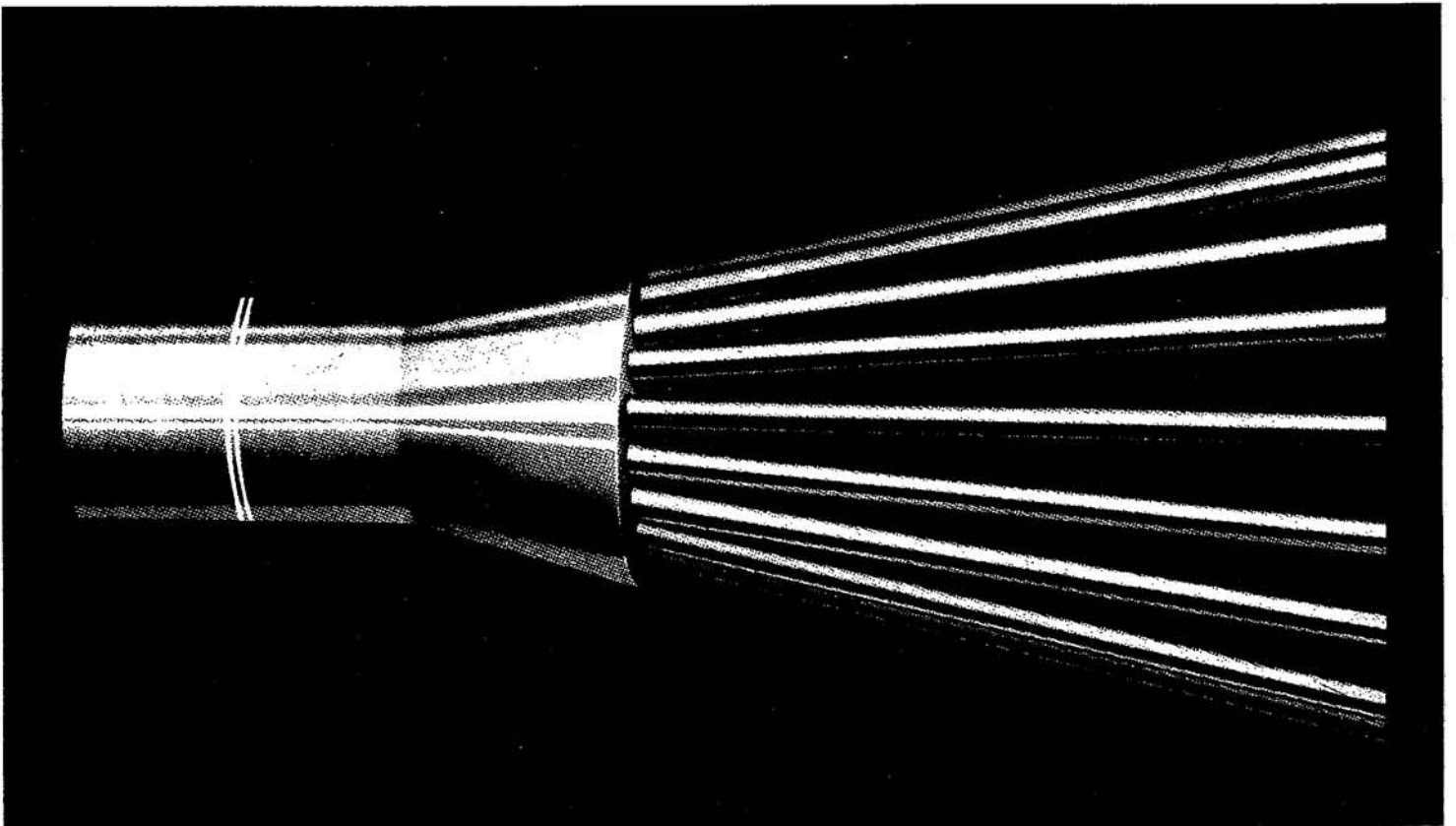


- **WIDE APPLICATION RANGE-**
FROM 50% TO 200% OF RATED CAPACITY.
- **INTERCHANGEABLE NOZZLE-**
PERMITS CUSTOM SELECTION FOR ANY REFRIGERANT
OR CAPACITY.
- **COMMON BODY STYLE-**
MAY BE USED WITH VARIOUS TYPE REFRIGERANTS.

KeepFlo, Inc.



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NOZZLE-TYPE REFRIGERANT DISTRIBUTORS

THE NOZZLE-TYPE DISTRIBUTOR HAS A PERMANENT OR REPLACEABLE NOZZLE FOR ADIABATIC PRESSURE DROP BEFORE IT ENTERS THE COIL CIRCUIT TUBES. BY CHANGING NOZZLES WITH DIFFERENT ORIFICE SIZES, ONE BODY TYPE MAY BE USED FOR VARIOUS REFRIGERANTS.

SELECTION METHOD

- 1-SELECT THE NUMBER OF CIRCUITS FOR THE EVAPORATOR.
- 2-CALCULATE CIRCUIT LOADING.
- 3-OBTAIN THE DISTRIBUTOR TUBE SIZE FROM TABLE I WITH CIRCUIT LOADING, SUCTION TEMPERATURE AND TYPE OF REFRIGERANT.
- 4-SELECT DISTRIBUTOR NOZZLE ORIFICE NUMBER BY USING TABLE II WITH TOTAL CAPACITY, REFRIGERANT TYPE AND SUCTION TEMPERATURE.
- 5-SELECT THE DISTRIBUTOR TYPE WITH REQUIRED CIRCUITS AND TUBE SIZE BY USING PAGES 3 TO 6.

EXAMPLE

NUMBER OF CIRCUITS-----12
 LOADING/CIRCUIT-----0.7 TON
 SUCTION TEMPERATURE-----20° F
 REFRIGERANT TYPE-----R-22
 TOTAL LOAD-----8.4 TONS

SELECTED DISTRIBUTOR

12 CIRCUIT, 1/4" CIRCUIT TUBES, NUMBER 10 NOZZLE, DISTRIBUTOR TYPE 902.

ORDERING INFORMATION

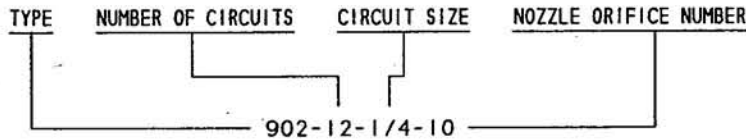


TABLE I
DISTRIBUTOR TUBE CIRCUIT CAPACITIES
 REFRIGERANTS 12.22 AND 502 AT VARIOUS EVAPORATOR TEMPERATURES
 TONS OF REFRIGERATION

TUBE SIZE INCHES O.D.	EVAPORATING TEMPERATURE °F														
	REFRIGERANT														
	12					22					502				
	40°	20°	0°	-20°	-40°	40°	20°	0°	-20°	-40°	40°	20°	0°	-20°	-40°
5/32	.19	.14	.11	.08	.06	.26	.21	.16	.12	.09	.18	.13	.10	.07	.05
3/16	.40	.30	.23	.17	.13	.53	.44	.33	.24	.20	.37	.28	.22	.15	.12
1/4	.80	.60	.45	.33	.25	1.1	.89	.67	.49	.39	.73	.58	.43	.31	.23
5/16	1.6	1.2	.90	.66	.50	2.2	1.7	1.3	.98	.79	1.5	1.1	.83	.62	.46
3/8	2.8	2.1	1.6	1.2	.88	3.7	2.9	2.2	1.7	1.4	2.5	2.0	1.5	1.1	.80

TABLE II
DISTRIBUTOR NOZZLE CAPACITIES
 REFRIGERANTS 12.22 AND 502 AT VARIOUS EVAPORATOR TEMPERATURES
 TONS OF REFRIGERATION

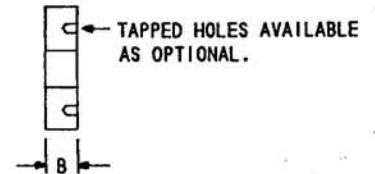
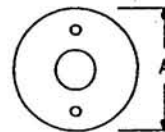
NOZZLE ORIFICE NUMBER	EVAPORATING TEMPERATURE °F														
	REFRIGERANT														
	12					22					502				
	40°	20°	0°	-20°	-40°	40°	20°	0°	-20°	-40°	40°	20°	0°	-20°	-40°
1/2	.35	.28	.22	.18	.16	.61	.48	.37	.28	.25	.40	.31	.22	.17	.13
3/4	.53	.44	.34	.27	.23	.91	.74	.60	.48	.35	.58	.46	.38	.29	.19
1	.71	.56	.47	.36	.30	1.2	.96	.78	.62	.50	.81	.67	.49	.35	.26
1-1/2	1.0	.80	.69	.55	.45	1.8	1.5	1.2	.90	.75	1.2	.93	.71	.52	.39
2	1.4	1.1	.95	.73	.60	2.4	2.0	1.6	1.2	1.0	1.6	1.3	.98	.75	.58
2-1/2	1.8	1.4	1.15	.91	.80	3.0	2.4	1.9	1.5	1.2	2.0	1.6	1.2	.93	.71
3	2.2	1.7	1.4	1.1	.95	3.6	3.0	2.3	1.8	1.5	2.4	2.0	1.4	1.1	.84
4	2.8	2.2	1.8	1.4	1.2	4.9	4.0	3.1	2.5	2.0	3.2	2.6	2.0	1.5	1.2
5	3.6	2.8	2.2	1.8	1.6	6.1	4.8	3.9	3.0	2.5	4.0	3.2	2.4	1.8	1.4
6	4.3	3.4	2.7	2.2	1.9	7.2	5.6	4.6	3.6	2.9	5.0	3.8	2.8	2.2	1.7
8	5.7	4.4	3.4	2.8	2.4	9.5	7.4	6.0	4.6	3.7	6.3	5.2	3.8	3.0	2.3
10	7.1	5.6	4.3	3.4	2.9	11.4	9.1	7.3	5.2	4.3	8.1	6.2	4.4	3.5	2.6
12	8.5	6.7	5.2	4.1	3.4	14.1	10.9	8.7	6.6	5.5	9.9	7.7	5.4	4.1	3.2
15	10.6	8.0	6.4	5.0	4.3	17.5	13.5	10.6	8.1	6.5	12.0	9.3	7.1	5.2	4.5
17	12.1	9.2	7.3	5.9	4.9	19.8	15.7	12.0	9.0	7.5	13.5	11.0	7.6	6.4	5.2
20	14.2	10.8	8.6	6.8	5.5	23.6	18.3	14.3	10.9	9.0	16.5	13.0	9.3	7.5	5.8
25	17.8	13.6	10.8	8.2	7.0	29.6	23.5	18.0	13.8	11.0	20.5	16.5	12.0	9.3	7.7
30	21.3	16.0	12.9	10.0	8.5	34.2	27.0	20.2	15.7	13.0	24.0	18.5	13.5	10.5	9.5
35	24.8	19.2	15.0	11.8	10.0	41.0	32.2	24.8	19.0	15.5	29.0	22.5	16.5	13.0	10.5
40	28.4	21.6	17.2	13.6	11.5	45.6	35.7	29.4	20.9	17.0	32.0	25.0	19.0	14.5	11.5
50	35.5	27.2	21.5	16.8	14.0	59.3	46.1	35.9	27.6	22.0	42.0	32.0	24.0	18.5	15.5

TABLE III
PRESSURE DROP vs. DISTRIBUTOR LOADING

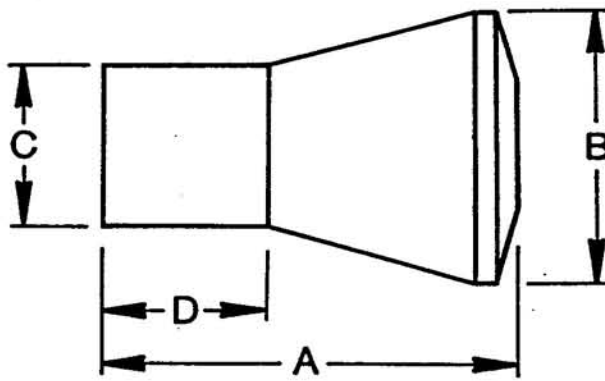
ACTUAL LOAD AS A PERCENT OF PUBLISHED RATING	REFRIGERANT 12		REFRIGERANT 22 & 502	
	ΔP NOZZLE PSI	ΔP TUBES AND PASSAGES PSI	ΔP NOZZLE PSI	ΔP TUBES AND PASSAGES PSI
50	4	3	7	3
60	6	4	10	4
70	8	5	13	5
80	10	6	16	6
90	12	8	20	8
100	15	10	25	10
110	18	12	30	12
120	20	14	35	14
130	22	16	38	16
140	24	18	40	18
150	27	21	43	21
160	29	23	46	24
170	31	25	49	27
180	33	27	52	30
190	36	29	54	32
200	38	31	57	34

NOZZLES & RETAINER RINGS

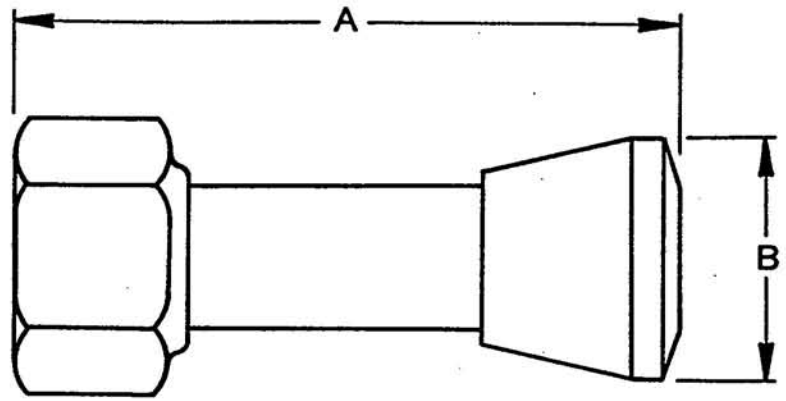
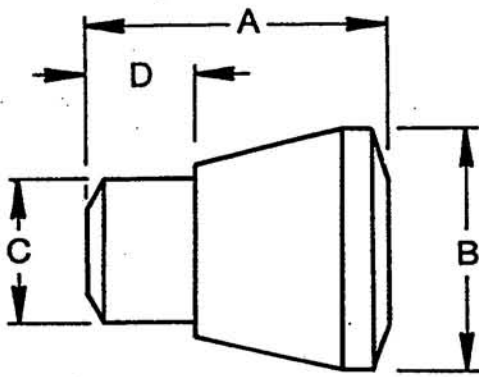
NOZZLES AND RINGS MAY BE ORDERED SEPARATELY. INFORMATION REQUIRED FOR NOZZLES IS OUTSIDE DIAMETER OF NOZZLE, WHICH IS DESIGNATED BY A LETTER AND A NUMBER WHICH DETERMINES THE ORIFICE SIZE. NOZZLES ARE INTERCHANGEABLE WITH SEVERAL BODIES. RINGS MAY BE ORDERED WITH A LETTER CORRESPONDING TO THE NOZZLE. "E" RING WOULD GO WITH A DISTRIBUTOR BODY THAT TAKES A "E" NOZZLE.



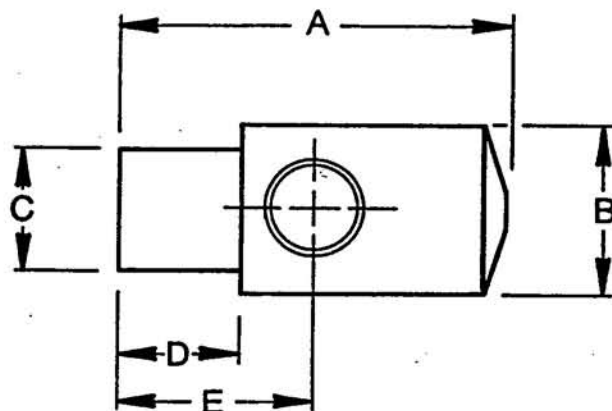
NOZZLE SIZE	A	B
A	1.375	0.25
C	1.120	0.25
E	1.000	0.25
G	0.735	0.25
J	0.498	0.25
L	0.401	0.187



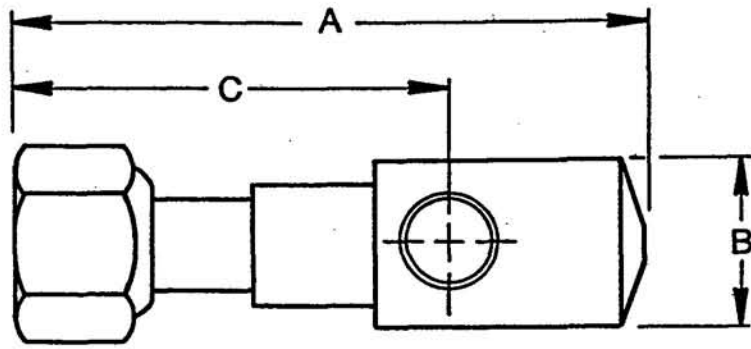
TYPE	MAX. NO. OF CIRCUITS	NOZZLE NUMBERS AVAILABLE	NOZZLE SIZE	A	B	C	D
401 1613	5/32 - 2 TO 7 3/16 - 2 TO 6 1/4 - 2 TO 4	1/2 THRU 5	PERMANENT NOT REPLACEABLE	1.185	0.835	0.498 TO 0.500	0.500
402 1616	5/32 - 8 TO 10 3/16 - 7 TO 8 1/4 - 5 TO 6 5/16 - 2 TO 4	1/2 THRU 5	PERMANENT NOT REPLACEABLE	1.561	1.009	0.498 TO 0.500	0.500
501 1620	5/32 - 2 TO 6 3/16 - 2 TO 4 1/4 - 2 TO 3	1/2 THRU 5	J	1.205	0.835	0.623 TO 0.625	0.625
502 1622	5/32 - 7 TO 10 3/16 - 5 TO 7 1/4 - 4 TO 6 5/16 - 2 TO 4	1/2 THRU 5	J	1.498	1.009	0.623 TO 0.625	0.625
701 1112	5/32 - 7 TO 8 3/16 - 5 TO 7 1/4 - 4 TO 6 5/16 - 2 TO 4 3/8 - 2	3/4 THRU 12	G	1.561	1.041	0.873 TO 0.875	0.875
702 1113	5/32 - 9 TO 12 3/16 - 8 TO 10 1/4 - 7 TO 8 5/16 - 5 TO 6 3/8 - 3 TO 4	3/4 THRU 12	G	1.812	1.191	0.873 TO 0.875	0.875
901 1115	5/32 - 13 TO 19 3/16 - 11 TO 15 1/4 - 9 TO 10 5/16 - 7 TO 8 3/8 - 5 TO 6	3 THRU 30	E	2.505	1.567	1.123 TO 1.125	1.125
902 1116	5/32 - 20 3/16 - 16 TO 18 1/4 - 11 TO 14	5 THRU 30	E	2.444	1.75	1.123 TO 1.125	1.375
1101 1117	3/16 - 16 TO 18 1/4 - 11 TO 14 5/16 - 9 3/8 - 7	3 THRU 30	C	2.444	1.75	1.373 TO 1.375	1.375
1102 1126	3/16 - 19 TO 24 1/4 - 15 TO 18 5/16 - 10 TO 15 3/8 - 8 TO 12	3 THRU 50	C	3.396	2.299	1.373 TO 1.375	1.375
1103 1128	3/16 - 25 TO 33 1/4 - 19 TO 24 5/16 - 16 TO 20 3/8 - 13 TO 16	3 THRU 50	C	3.07	2.933	1.373 TO 1.375	1.156
1301 1125	3/16 - 25 TO 33 1/4 - 19 TO 24 5/16 - 16 TO 20 3/8 - 13 TO 16	10 THRU 50	A	3.07	2.933	1.623 TO 1.625	1.156
1303 1127	3/16 - 34 TO 40 1/4 - 25 TO 31 5/16 - 21 TO 26 3/8 - 17 TO 21	10 THRU 50	A	3.325	3.5	1.623 TO 1.625	1.44
1304 1143	3/16 - 41 TO 45 1/4 - 32 TO 35 5/16 - 27 TO 30 3/8 - 22 TO 24	10 THRU 50	A	3.915	4.0	1.623 TO 1.625	1.44
1305	3/16 - 46 TO 51 1/4 - 36 TO 40 5/16 - 31 TO 34 3/8 - 25 TO 27	10 THRU 50	A	4.13	4.5	1.623 TO 1.625	1.44
1306	3/16 - 52 TO 54 1/4 - 41 TO 43 5/16 - 35 TO 36 3/8 - 28 TO 29	10 THRU 50	A	4.37	4.75	1.623 TO 1.625	1.44



TYPE	MAX. NO. OF CIRCUITS	NOZZLE NUMBERS AVAILABLE	NOZZLE SIZE	A	B	C	D
F401 (1/2 FLARE NUT) 1603	5/32-2 TO 7 3/16-2 TO 6 1/4 -2 TO 4	1/2 THRU 5	PERMANENT NOT REPLACEABLE	2.15	0.835	—	—
S401 1604	5/32-2 TO 7 3/16-2 TO 6 1/4 -2 TO 4	1/2 THRU 5	PERMANENT NOT REPLACEABLE	1.00	0.835	0.430 TO 0.432	0.33
F402 (1/2 FLARE NUT) 1606	5/32-8 TO 10 3/16-7 TO 8 1/4 -5 TO 6 5/16-2 TO 4	1/2 THRU 5	PERMANENT NOT REPLACEABLE	2.55	1.009	—	—
S402 1607	5/32-8 TO 10 3/16-7 TO 8 1/4 -5 TO 6 5/16-2 TO 4	1/2 THRU 5	PERMANENT NOT REPLACEABLE	1.38	1.009	0.430 TO 0.432	0.33
F403 (1/2 FLARE NUT) 1605	5/32-2 TO 7 3/16-2 TO 6 1/4 -2 TO 4	1/2 THRU 8	L	2.50	0.835	—	—
F404 (1/2 FLARE NUT) 1608	5/32-2 TO 10 3/16-2 TO 8 1/4 -2 TO 6 5/16-2 TO 4	1/2 THRU 8	L	2.78	1.009	—	—
F501 (5/8 FLARE NUT) 1147	5/32-2 TO 10 3/16-2 TO 8 1/4 -2 TO 6	1/2 THRU 5	J	3.22	1.190	—	—



TYPE	MAX. NO. OF CIRCUITS	NOZZLE NUMBERS AVAILABLE	NOZZLE SIZE	SIDE CONNECTIONS		A	B	C	D	E
				NUMBER	SIZE					
503 1651	5/32 - 2 TO 8 3/16 - 2 TO 7 1/4 - 2 TO 4	1/2 THRU 5	J	1 OR 2	3/8 OR 1/2 ODF	2.02	0.88	0.623 TO 0.625	0.66	0.98
703 1653	5/32 - 9 TO 14 3/16 - 8 TO 10 1/4 - 5 TO 8 5/16 - 2 TO 5 3/8 - 2 TO 4	3/4 THRU 12	G	1 OR 2	3/8 OR 1/2 ODF	2.55	1.25	0.873 TO 0.875	0.91	1.22
903 1655	5/32 - 15 TO 20 3/16 - 11 TO 16 1/4 - 9 TO 12 5/16 - 6 TO 9 3/8 - 5 TO 7	3 THRU 30	E	1 OR 2	3/8 OR 1/2 OR 5/8 ODF	3.25	1.62	1.123 TO 1.125	1.06	1.47
1104 1657	5/32 - 21 TO 30 3/16 - 17 TO 26 1/4 - 13 TO 18 5/16 - 10 TO 14 3/8 - 8 TO 11	3 THRU 50	C	1 OR 2	1/2 OR 5/8 OR 7/8 ODF	4.25	2.25	1.373 TO 1.375	1.31	1.88
1302 1659	3/16 - 27 TO 32 1/4 - 19 TO 24 5/16 - 15 TO 18 3/8 - 12 TO 14	3 THRU 50	A	1 OR 2	7/8 OR 1 - 1/8 ODF	4.88	2.75	1.623 TO 1.625	1.62	2.31
1307	3/16 - 33 TO 41 1/4 - 25 TO 32 5/16 - 19 TO 26 3/8 - 15 TO 22	10 THRU 50	A	1 OR 2	7/8 OR 1 - 1/8 ODF	6.35	3.5	1.623 TO 1.625	1.625	2.31



TYPE	MAX. NO. OF CIRCUITS	NOZZLE NUMBERS AVAILABLE	NOZZLE SIZE	SIDE CONNECTIONS		A	B	C
				NUMBER	SIZE			
F405 (1/2 FLARE NUT) 1650	5/32-2 TO 8 3/16-2 TO 7 1/4 -2 TO 4	1/2 THRU 5	PERMANENT NOT REPLACEABLE	1 OR 2	3/8 OR 1/2	3.10	0.88	2.06
F503 (5/8 FLARE NUT) 1652	5/32-2 TO 8 3/16-2 TO 7 1/4 -2 TO 4	1/2 THRU 5	PERMANENT NOT REPLACEABLE	1 OR 2	3/8 OR 1/2	3.50	0.88	2.50
F504 (5/8 FLARE NUT) 1654	5/32-9 TO 14 3/16-8 TO 10 1/4 -5 TO 8 5/16-2 TO 5 3/8 -5 TO 7	3/4 THRU 12	PERMANENT NOT REPLACEABLE	1 OR 2	3/8 OR 1/2	4.05	1.25	2.75
F505 (5/8 FLARE NUT) 1656	5/32-15 TO 20 3/16-11 TO 16 1/4 -9 TO 12 5/16-6 TO 9 3/8 -5 TO 7	3 THRU 30	PERMANENT NOT REPLACEABLE	1 OR 2	3/8 OR 1/2	4.75	1.62	2.94

- WE CAN SHIP DISTRIBUTORS OUT OF STOCK IN 24 HOURS.
- MODLES LISTED IN OUR CATALOGUE ARE STANDARD. HOWEVER, WE CAN ALSO MANUFACTURE DISTRIBUTORS TO YOUR DESIGN AND SPECIFICATIONS.
- WE ALSO MANUFACTURE VENTURI-FLO[®] REFRIGERANT DISTRIBUTORS.
- WE ARE YOUR SINGLE SOURCE FOR VENTURI-FLO[®] AND NOZZLE TYPE REFRIGERANT DISTRIBUTORS.

FOR FURTHER INFORMATION, PLEASE CONTACT:

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