



## SERVICE BULLETIN

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**Title:** 17/19DK/DM Flasc Orifices  
**Models Affected:** 17/19DK/DM

**Number:** C9626  
**Date:** 8/8/96  
**Supersedes:**  
**Date:**

**Purpose:**

To advise the field of orifice diameters between the main condenser and the thermal economizer (flasc chamber) of affected units.

**File:** Cooler & Condenser

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**Approved By:** Alan M. Johnson

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## Background:

Whenever one of the affected units gets wet, the possibility exists for rust flakes to plug the flange orifices. Perforated plate was added the full length of the condenser to prevent any such plugging.

## Symptom:

The symptom for plugged orifices would be stacking of refrigerant in the condenser and very little refrigerant left in the float chamber.

## Information:

The number and diameter of orifices needed vary according to the unishell size and the full load kilowatt input (lkW) for the compressor.

There are four fixed diameter orifices depending upon unishell size (See [Figure 1](#) for size and location). Also, at locations 1, 2 & 3, four other orifices vary with motor lkW. The arrangement code is in the attached tables for each machine type. One or more of the latter orifices can be a solid plug. Couplings opposite the variable orifice locations may have been added in the factory especially if the unit was at one time a stock unit, as shown in [Section B-B, Figure 2](#).

If orifices are plugged, rust flakes could also be blocking flow of refrigerant through the perforated plate. Anytime the condenser of one of the affected units is being retubed, consider cutting into the condenser to make sure the perforated plate is unrestricted.

Example: 19DK77404CQ with kW 322

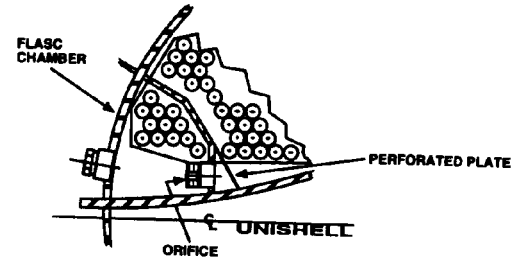
Unishell size = 77

Compressor size = 404

Solution:

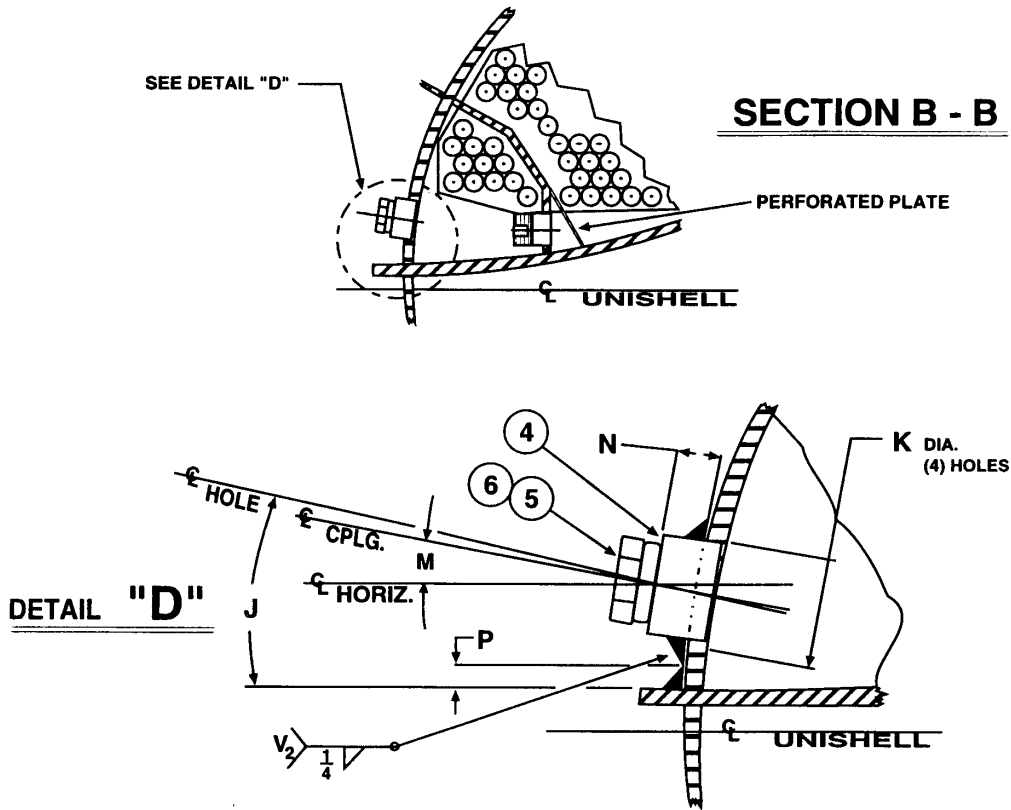
Fixed orifices: 29/32 diameter

Letter code: K has four 0.874 orifices





**FIGURE 2**



**INFORMATION ON THIS PAGE USED FOR FACTORY AND FIELD REPLACEMENT OF ORIFICE ONLY.**

FRAME		21	31	41	
ITEM	PART NO.				DESCRIPTION
4	CL40EA301	4			1-1/4 N.P.T. HALF CPLG. 6000#
	CL40EA351		4	4	1-1/2 N.P.T. HALF CPLG. 6000#
5	CA63AA301	4			1-1/4 N.P.T. HEX. PLUG
	CA63AA351		4	4	1-1/2 N.P.T. HEX. PLUG
6	PF20-24	—	—	—	PIPE SEALANT
	"J" DIM	2.26	3.50	3.25	TAPE MEASURE
	"K" DIM	2.62	3.12	3.12	
	"M" DIM	7"	0"	5"	
	"N" DIM	.82	1.18	.88	
	"P" DIM	.50	.62	.76	

**Notes:**

1. For longitudinal locations use DIMS A, B, C & D from view below.
2. "K" diameter should not be flame cut.
3. **CAUTION:** When cutting ("K" dia.) hole in shell depth of cutter should not exceed 1-1/2" to avoid contact with tubes.

# ORIFICE LOCATIONS

TOTAL REQ'D PER ASS'Y

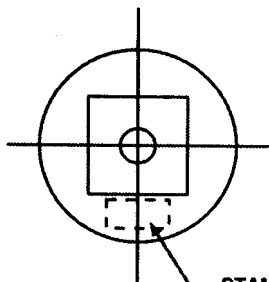
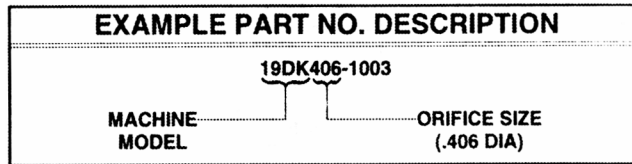
ARRGT CODE LETTER	A	B	C	D	E	F	G	H	J	K
NO. OF SOLID PLUGS	4	4	2	0	0	3	2	0	0	0
NO. OF ORIFICE PLUGS	0	0	2	4	4	1	2	4	4	4



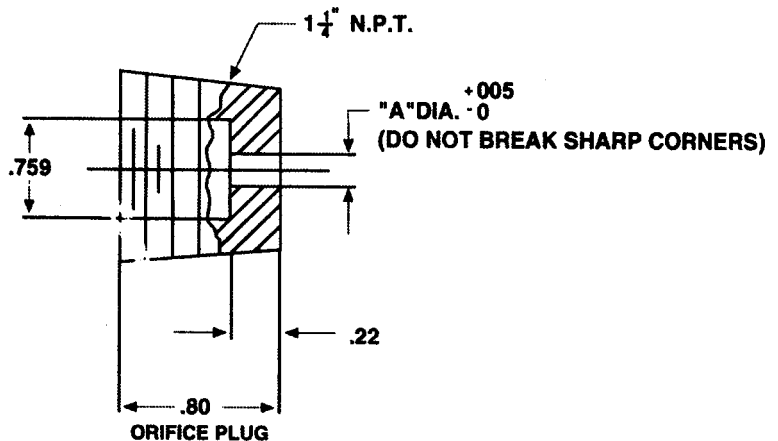
NO REQ'D IN THIS ITEM LOCATION

LOCATIONS		PART NUMBER										DESCRIPTION
		A	B	C	D	E	F	G	H	J	K	
1	CA62AA301	4/1	4/1									SOLID PLUG 1- 1/4" N.P.T.
	19DK406-1003			2/1	4/1							ORIFICE PLUG (.406 DIA)
	19DK531-1003					4/1						(.531 DIA)
	19DK625-1003						1	2/1	4/1			(.625 DIA)
	19DK750-1003									4/1		(.750 DIA)
	19DK875-1003										4/1	(.875 DIA)
2	CA62AA301	4/2	4/2	2		3/2	2					SOLID PLUG 1- 1/4" N.P.T.
	19DK406-1003				4/2							ORIFICE PLUG (.406 DIA)
	19DK531-1003					4/2						(.531 DIA)
	19DK625-1003							4/2				(.625 DIA)
	19DK750-1003								4/2			(.750 DIA)
	19DK875-1003									4/2		(.875 DIA)
3	CA62AA301	4/1	4/1			3/1						SOLID PLUG 1- 1/4" N.P.T.
	19DK406-1003			2/1	4/1							ORIFICE PLUG (.406 DIA)
	19DK531-1003					4/1						(.531 DIA)
	19DK625-1003						2/1	4/1				(.625 DIA)
	19DK750-1003								4/1			(.750 DIA)
	19DK875-1003									4/1		(.875 DIA)
			1									BLANK OFF PLATE

PART NO.	"A" DIA.
19DK406-1003	.406
19DK531-1003	.531
19DK625-1003	.625
19DK750-1003	.750
19DK875-1003	.875



STAMP ORIFICE SIZE PER "A" DIMENSION



TOTAL REQ'D PER ASS'Y

# ORIFICE LOCATIONS

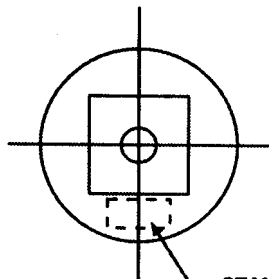
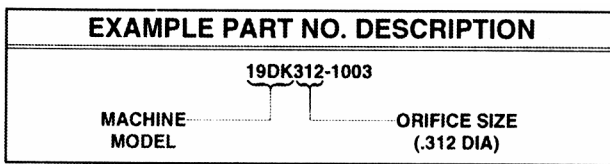


NO REQ'D IN THIS ITEM LOCATION

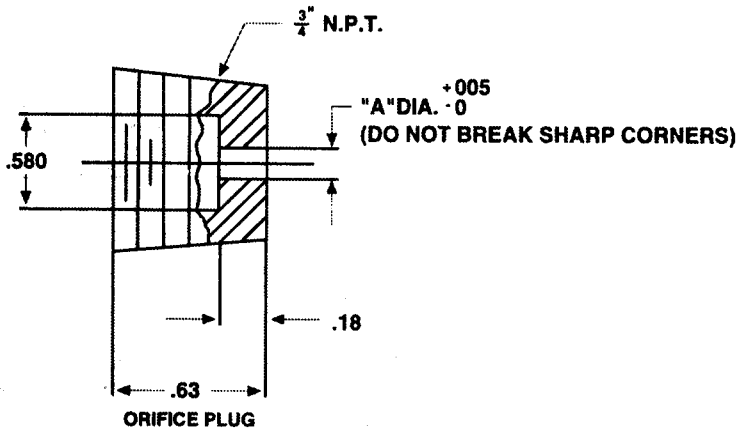
ARRGT CODE LETTER	L	M	N	P	Q	R	S	T
NO. OF SOLID PLUGS	4	4	2	0	2	0	0	0
NO. OF ORIFICE PLUGS	0	0	2	4	2	4	4	4

LOCATIONS	PART NUMBER										DESCRIPTION
	1	CA62AA201	4 1	4 1							
19DK312-1003				2 1	1 1						ORIFICE PLUG (.312 DIA)
19DK375-1003						2 1	4 1				(.375 DIA)
19DK500-1003								4 1			(.500 DIA)
19DK593-1003									4 1		(.593 DIA)
2	CA62AA201	4 2	4 2	2		2					SOLID PLUG 3/4" N.P.T.
	19DK312-1003				4 2						ORIFICE PLUG (.312 DIA)
	19DK375-1003					4 2					(.375 DIA)
	19DK500-1003						4 2				(.500 DIA)
	19DK593-1003								4 2		(.593 DIA)
3	CA62AA201	4 1	4 1								SOLID PLUG 3/4" N.P.T.
	19DK312-1003			2 1	4 1						ORIFICE PLUG (.312 DIA)
	19DK375-1003					2 1	4 1				(.375 DIA)
	19DK500-1003							4 1			(.500 DIA)
	19DK593-1003								4 1		(.593 DIA)
			1								BLANK OFF PLATE

PART NO.	"A" DIA.
19DK312-1003	.312
19DK375-1003	.375
19DK500-1003	.500
19DK593-1003	.593



STAMP ORIFICE SIZE PER "A" DIMENSION



17/19 DK Orifice Selection Chart  
(Arrangement Code)

Comp. Code	KW Input	Unishell Code			
		42-46	50-55	57	61-65
112 & 113	≤70	L	M	M	B
	>70-80	N	M	M	B
	>80-90	P	M	M	B
	>90-100	R	L	M	B
	>100	S	L	M	B
114	≥70	L	M	M	B
	>70-80	N	M	M	B
	>80-90	P	M	M	B
	>90-100	R	L	M	B
	>100	S	L	M	B
115	≤80	L	M	M	B
	>80-90	N	M	M	B
	>90-100	P	M	M	B
	>100-110	R	L	M	B
	>110	S	L	M	B
116	≤80	L	M	M	B
	>80-90	N	M	M	B
	>90-100	P	M	M	B
	>100-110	P	L	M	B
	>110-120	R	L	M	B
	>120	S	L	M	B
117	≤90	L	M	M	B
	>90-100	N	M	M	B
	>100-110	P	M	M	B
	>110-120	R	L	M	B
	>120	S	L	M	B

17/19 DK Orifice Selection Chart  
(Arrangement Code)

Comp. Code	KW Input	Unishell Code			
		42-46	50-55	57	61-65
118	≤90	L	M	M	B
	>90-110	N	M	M	B
	>110-120	P	M	M	B
	>120-130	R	L	M	B
	>130	S	L	M	B
122 & 123	≤90	R	L	M	B
	>90-110	S	L	M	B
	>110-120	S	L	L	B
	>120	T	Q	L	A
124	≤90	P	M	M	B
	>90-100	R	L	M	B
	>100-120	S	L	M	B
	>120-130	S	L	L	B
	>130	T	Q	L	A
125	≤100	P	M	M	B
	>100-110	R	L	M	B
	>110-130	S	L	M	B
	>130-140	S	L	L	B
	>140	T	Q	L	A
126	≤100	P	M	M	B
	>100-110	R	L	M	B
	>110-140	S	L	M	B
	>140	T	Q	L	B

17/19 DK Orifice Selection Chart  
(Arrangement Code)

Comp. Code	KW Input	Unishell Code			
		42-46	50-55	57	61-65
127	≤100	P	M	M	B
	>100-110	P	L	M	B
	>110-120	R	L	M	B
	>120-140	S	L	M	B
	>140-150	S	L	L	B
	>150	T	Q	L	B
128	≤120	P	M	M	B
	>120 130	R	L	M	B
	>130-160	S	L	M	B
	>160	S	L	L	B
142 & 143	≤110	S	L	M	B
	>110 120	S	Q	L	B
	>120-130	T	Q	L	A
	>130	T	R	L	A
144	≤100	R	L	M	B
	>100-120	S	L	M	B
	>120 130	S	Q	L	B
	>130-140	T	Q	L	A
	>140	T	R	L	A
145	≤110	R	L	M	B
	>110-130	S	L	M	B
	>130-140	S	Q	L	B
	>140	T	Q	L	A
146	≤110	R	L	M	B
	>110-140	S	L	M	B
	>140-150	T	Q	L	B
	>150	T	Q	L	A

17/19 DK Orifice Selection Chart  
(Arrangement Code)

Comp. Code	KW Input	Unishell Code			
		42-46	50-55	57	61-65
147	≤120	R	L	M	B
	>120-140	S	L	M	B
	>140-150	S	L	L	B
	>150	T	Q	L	A
148	≤130	R	L	M	B
	>130-160	S	L	M	B
	>160-170	S	L	L	B
	>170	T	Q	L	A
162 & 163	≤110	S	L	M	B
	>110-120	T	Q	L	B
	>120-130	T	Q	L	A
	>130-150	T	R	L	A
	>150	T	S	L	A
164	≤120	S	L	M	B
	>120-130	T	Q	L	B
	>130-140	T	Q	L	A
	>140-150	T	R	L	A
	>150	T	R	L	A
165	≤130	S	L	M	B
	>130-140	S	Q	L	B
	>140-150	T	Q	L	A
	>150	T	R	L	A
166	≤130	S	L	M	B
	>130-140	S	L	L	B
	>140-150	T	Q	L	B
	>150-160	T	Q	L	A
	>160	T	R	L	A

17/19 DK Orifice Selection Chart  
(Arrangement Code)

Comp. Code	KW Input	Unishell Code			
		42-46	50-55	57	61-65
167	≤140	S	L	M	B
	>140-150	S	L	L	B
	>150-170	T	Q	L	A
	>170	T	R	L	A
168	≤160	S	L	M	B
	>160-170	S	L	L	B
	>170-190	T	Q	L	A
	>190	T	R	L	A
172 & 173	≤110	L	L	B	B
	>110-120	Q	L	A	B
	>120-130	R	L	A	B
	>130-140	R	L	A	A
	>140-160	S	Q	A	A
	>160	T	R	C	A
174	≤120	Q	L	B	B
	>120-130	Q	L	A	B
	>130-140	R	L	A	B
	>140-150	R	L	A	A
	>150-160	S	L	A	A
	>160-170	S	Q	A	A
	>170	T	R	C	A
175	≤130	Q	L	B	B
	>130-140	Q	L	A	B
	>140-160	R	L	A	B
	>160-170	S	L	A	A
	>170-180	S	Q	A	A
	>180	S	Q	C	A

17/19 DK Orifice Selection Chart  
(Arrangement Code)

Comp. Code	KW Input	Unishell Code			
		42-46	50-55	57	61-65
176	≤130	L	L	B	B
	>130-140	Q	L	B	B
	>140-150	Q	L	A	B
	>150-160	R	L	A	B
	>160-170	R	L	A	A
	>170-180	S	L	A	A
177	≤140	L	L	B	B
	>140-160	Q	L	A	B
	>160-170	R	L	A	B
	>170-180	R	L	A	A
	>180-200	S	Q	A	A
	>200	S	Q	C	A
178	≤150	L	L	B	B
	>150-160	Q	L	B	B
	>160-170	Q	L	A	B
	>170-190	R	L	A	B
	>190-200	S	L	A	A
	>200	S	Q	A	A
202, 203	≤140	S	L	A	A
	>140-150	S	Q	A	A
	>150-170	T	R	C	A
	>170-180	T	S	D	A
	>180-190	T	S	D	F
	>190	T	S	E	F

17/19 DK Orifice Selection Chart  
(Arrangement Code)

Comp. Code	KW Input	Unishell Code			
		42-46	50-55	57	61-65
204	≤140	R	L	A	B
	>140-150	S	L	A	A
	>150-160	S	Q	A	A
	>160-170	S	Q	C	A
	>170-180	T	R	C	A
	>180-200	T	S	D	A
	>200	T	S	D	F
205	≤150	R	L	A	B
	>150-160	S	L	A	A
	>160-180	S	Q	A	A
	>180-200	T	R	C	A
	>200	T	S	D	A
206	≤150	R	L	A	B
	>150-160	R	L	A	A
	>160-170	S	L	A	A
	>170-190	S	Q	A	A
	>190	T	R	C	A
207	≤160	R	L	A	B
	>160-170	R	L	A	A
	>170-180	S	L	A	A
	>180-200	S	Q	A	A
	>200-220	T	R	C	A
	>220	T	S	C	A

17/19 DK Orifice Selection Chart  
(Arrangement Code)

Comp. Code	KW Input	Unishell Code			
		42-46	50-55	57	61-65
208	≤180	R	L	A	B
	>180-190	R	L	A	A
	>190-200	S	L	A	A
	>200-220	S	Q	A	A
	>220-240	T	R	C	A
	>240	T	S	D	A
222 & 223	≤150	S	Q	A	A
	>150-170	T	R	C	A
	>170-180	T	S	D	A
	>180-190	T	S	D	F
	>190-200	T	T	E	F
	>200	T	T	E	G
224	≤160	S	Q	A	A
	>160-180	T	R	C	A
	>180-200	T	S	D	A
	>200	T	S	E	F
225	≤180	S	Q	A	A
	>180-200	T	R	C	A
	>200-220	T	S	D	A
	>220	T	T	E	F
226	≤180	S	Q	A	A
	>180-190	S	Q	C	A
	>190-200	T	R	C	A
	>200-220	T	S	D	A
	>220	T	S	D	F

17/19 DK Orifice Selection Chart  
(Arrangement Code)

Comp. Code	KW Input	Unishell Code			
		42-46	50-55	57	61-65
227	≤190	S	Q	A	A
	>190-200	S	Q	C	A
	>200-220	T	R	C	A
	>220-240	T	S	D	A
	>240	T	S	D	F
228	≤200	S	L	A	A
	>220-220	S	Q	A	A
	>220-240	T	R	C	A
	>240-260	T	S	D	A
	>260	T	S	D	F
252 & 253	≤170	T	R	C	A
	>170-180	T	S	D	A
	>180-190	T	S	D	F
	>190-200	T	T	E	F
	>220-220	T	T	E	G
	>220	T	T	H	H
254	≤180	T	R	C	A
	>180-200	T	S	D	A
	>200-220	T	T	E	F
	>220-240	T	T	E	G
	>240	T	T	H	G
255	≤200	T	R	C	A
	>200-220	T	S	D	A
	>220-240	T	T	E	F
	>240	T	T	E	G

17/19 DK Orifice Selection Chart  
(Arrangement Code)

Comp. Code	KW Input	Unishell Code			
		42-46	50-55	57	61-65
256	≤190	S	Q	A	A
	>190-200	T	R	C	A
	>200-220	T	S	D	A
	>220-240	T	S	D	F
	>240	T	T	E	F
257	≤200	S	Q	A	A
	>200-220	T	R	C	A
	>220-240	T	S	D	A
	>240	T	T	E	F
258	≤220	S	Q	A	A
	>220-240	T	R	C	A
	>240-260	T	S	D	A
	>260-280	T	S	E	F
	>280	T	T	E	F

17/19 DK Orifice Selection Chart  
(Arrangement Code)

Comp. Code	KW Input	Unishell Code		Comp. Code	KW Input	Unishell Code	
		61-65	71-78			61-65	71-78
282 & 283	≤180	D	F	284	≤190	D	F
	>180-200	E	G		>190-200	E	F
	> 200-220	H	H		>200-220	E	G
	>220-240	J	H		>220-240	H	H
	>240-260	J	J		>240-260	J	H
	>260	K	J		>260-280	J	J
				>280	K	J	
285	≤200	D	A	286	≤200	C	A
	>200-220	E	F		>200-220	D	F
	>220-240	H	G		>220-240	E	G
	>240-260	H	H		>240-260	H	G
	>260-280	J	H		>260-280	J	H
	>280	J	J		>280-300	J	H
				>300	J	J	
287	≤200	C	A	288	≤220	C	A
	>200-220	D	A		>220-240	D	A
	>220-240	E	F		>240-260	E	F
	>240-260	F	G		>260-280	E	G
	>260-280	H	H		>280-300	H	H
	>280	J	H		>300	J	H
312 & 313	≤220	H	H	314	≤220	H	H
	>200-240	J	H		>220-260	J	H
	>240-280	K	J		>260-300	K	J
	>280	K	K		>300	K	K

17/19 DK Orifice Selection Chart  
(Arrangement Code)

Comp. Code	KW Input	Unishell Code		Comp. Code	KW Input	Unishell Code	
		61-65	71-78			61-65	71-78
315	≤240	H	G	316	≤260	H	H
	>240-280	J	H		>260-300	J	H
	>280-320	K	J		>300	K	J
	>320	K	K				
317	≤260	H	G	318	≤280	H	G
	>260-300	J	H		>280-300	H	H
	>300-320	J	J		>300-340	J	H
	>320	K	J		>340	K	J
352 & 353	≤240	J	H	354	≤260	J	H
	>240-280	K	J		>260 300	K	J
	>280	K	K		>300	K	K
355	≤280	J	H	356	≤280	J	H
	>280-320	K	J		>280-300	J	J
	>320	K	K		>300-340	K	J
			>340		K	K	
357	≤300	J	H	358	≤280	H	H
	>300-320	J	J		>280-340	J	H
	>320-340	K	J		>340	K	J
	>346	K	K				
402 & 403	≤280	K	J	404	≤300	K	J
	>280	K	K		>300	K	K
405	≤320	K	J	406	≤300	J	H
	>320	K	K		>300-340	K	J
			>340		K	K	
407	≤300	J	H	408	≤340	J	H
	>300-320	J	J		>340	K	J
	>320-340	K	J				

19DM Orifice Selection Chart  
(Arrangement Code)

Comp. Code	KW Input	Unishell Code			
		50-55	57	61-65	71-78
204	≤120	Q	L	A	B
	>120-130	R	L	A	B
	>130-140	S	L	A	A
	>140-150	S	Q	A	A
	>150	T	R	C	A
205	≥120	Q	L	B	B
	>120-130	R	L	A	B
	>130-140	R	L	A	A
	>140	S	Q	A	A
206	≤120	Q	L	B	B
	>120-130	R	L	A	B
	>130-140	R	L	A	B
	>140-150	S	L	A	A
	>150	S	Q	A	A
224	≤120	Q	L	A	B
	>120-130	R	L	A	B
	>130-150	S	Q	A	A
	>150-160	T	R	C	A
	>160	T	S	D	A
225	≤130	R	L	A	B
	>130-140	R	L	A	A
	>140-150	S	Q	A	A
	>150-160	S	Q	C	A
	>160-170	T	R	C	A
	>170	T	S	D	A

**19DM Orifice Selection Chart  
(Arrangement Code)**

Comp. Code	KW Input	Unishell Code			
		50-55	57	61-65	71-78
226	≤130	Q	L	A	B
	>130-140	R	L	A	B
	>140-150	S	L	A	A
	>150-160	S	Q	A	A
	>160-170	S	Q	C	A
	>170	T	R	C	A
254	≤130	S	L	A	A
	>130-140	S	Q	A	A
	>140-150	S	Q	C	A
	>150-160	T	R	C	A
	>160-170	T	S	D	A
	>170	T	S	D	F
255	≤140	R	L	A	A
	>140-150	S	Q	A	A
	>150-160	S	Q	C	A
	>160-170	T	R	C	A
	>170-180	T	S	D	A
	>180	T	S	D	F
256	≥140	R	L	A	B
	>140-150	S	L	A	A
	>150-160	S	Q	A	A
	>160-180	T	R	C	A
	>180	T	S	D	A

19DM Orifice Selection Chart  
(Arrangement Code)

Comp. Code	KW Input	Unishell Code			
		50-55	57	61-65	71-78
284	≤140	S	Q	A	A
	>140-150	S	Q	C	A
	>150-160	T	R	C	A
	>160-170	T	S	D	A
	>170-180	T	S	D	F
	>180-190	T	T	E	F
	>190	T	T	E	G
285	≤150	S	Q	A	A
	>150-170	T	R	C	A
	>170-180	T	S	D	A
	>180-190	T	S	E	F
	>190	T	T	E	F
286	≤150	S	L	A	A
	>150-160	S	Q	A	A
	>170-180	T	R	C	A
	>180-190	T	S	D	A
	>190-200	T	S	E	F
	>200	T	T	E	F
305	≤160	T	R	C	A
	>160-170	T	S	C	A
	>170-180	T	S	D	A
	>180-190	T	S	E	F
	>190-200	T	T	E	G
	>200-210	T	T	H	G
	>210	T	T	H	H

19DM Orifice Selection Chart  
(Arrangement Code)

Comp. Code	KW Input	Unishell Code			
		50-55	57	61-65	71-78
306	≤160	S	Q	A	A
	>160-170	T	R	C	A
	>170-180	T	S	D	A
	>180-190	T	S	D	F
	>190-200	T	T	E	F
	>200-210	T	T	E	G
	>210-220	T	T	H	G
	>220	T	T	H	H

19DM Orifice Selection Chart  
(Arrangement Code)

Comp. Code	KW Input	Unishell Code		Comp. Code	KW Input	Unishell Code	
		61-65	71-78			61-65	71-78
314	≤180	D	F	315	≤180	D	A
	>180-190	E	F		>180-200	E	F
	>190-200	E	G		>200-220	H	G
	>200-220	H	H		>220	J	H
	>220	J	H				
316	≤190	D	A	354	≤190	E	G
	>190-200	E	F		>190-200	H	G
	>200-220	E	G		>200-220	H	H
	>220-240	H	H		>220-240	J	H
	>240	J	H		>240	K	J
355	≤200	E	G	356	≤200	E	F
	>200-220	H	G		>200-220	E	G
	>220-240	J	H		>220-240	H	H
	>240-260	J	J		>240-260	J	H
	>260	K	J		>260	J	J
404	≤200	H	H	405	≤220	H	H
	>200-240	J	H		>220-240	J	H
	>240-260	K	J		>240-260	J	J
	>260	K	K		>260-280	K	J
				>280	K	K	
406	≤220	H	G	454	≤240	J	H
	>220-240	H	H		>240-260	K	J
	>240-260	J	H		>260	K	K
	>260-300	K	J				
	>300	K	K				

**19DM Orifice Selection Chart  
(Arrangement Code)**

Comp. Code	KW Input	Unishell Code		Comp. Code	KW Input	Unishell Code	
		61-65	71-78			61-65	71-78
455	≤240	J	H	456	≤260	J	H
	>240-260	J	J		>260-300	K	J
	>260-280	K	J		>300	K	K
	>280	K	K				
505	≤260	J	J	506	≤260	J	H
	>260-280	K	J		>260-300	K	J
	>280	K	K		>300	K	K