

INCOLOY ELEMENT PIPE PLUG IMMERSION HEATERS

- High watt density
- 304 Stainless Steel Pipe Plug

For Solution Water Heating

- Less than 6% solution of alkaline or acid content
- Maximum pH factor range of 5–9

For use in severe industrial process and solution water where the high nickel content of the Incoloy elements will resist chemical attack.

- See Watt Density and Operating Temperature Guideline (23T)
- See Corrosion Resistance of Sheath Materials (24T)

MIGHTY-BLADE—90 WATTS/SQ. IN.

1 1/4" NPT—ONE ELEMENT			FIG. 25		FIG. 26		FIG. 27		FIG. 28	
KILO-WATTS	VOLTS 3 PHASE ¹	B IMMERSION LENGTH	A TOTAL LENGTH	CATALOG NUMBER	C TOTAL LENGTH	CATALOG NUMBER	D TOTAL LENGTH	CATALOG NUMBER	E TOTAL LENGTH	CATALOG NUMBER
1.5	240	7%	11%	HJ-1-0152-M1	13%	HJ-1-0152-M7	11%	HJ-1T1-0152-M1	14%	HJ-1T1-0152-M7
	480			HJ-1-0153-M1		HJ-1-0153-M7		HJ-1T1-0153-M1		HJ-1T1-0153-M7
3	240	11%	15%	HJ-1-0154-M1	16%	HJ-1-0154-M7	14%	HJ-1T1-0154-M1	18%	HJ-1T1-0154-M7
	480			HJ-1-0155-M1		HJ-1-0155-M7		HJ-1T1-0155-M1		HJ-1T1-0155-M7
5	240	16%	20%	HJ-1-0156-M1	21%	HJ-1-0156-M7	19%	HJ-1T1-0156-M1	23%	HJ-1T1-0156-M7
	480			HJ-1-0157-M1		HJ-1-0157-M7		HJ-1T1-0157-M1		HJ-1T1-0157-M7
6.5	240	19%	23%	HJ-1-0158-M1	24%	HJ-1-0158-M7	22%	HJ-1T1-0158-M1	26%	HJ-1T1-0158-M7
	480			HJ-1-0159-M1		HJ-1-0159-M7		HJ-1T1-0159-M1		HJ-1T1-0159-M7
8.5	240	24%	28%	HJ-1-0160-M1	29%	HJ-1-0160-M7	28%	HJ-1T1-0160-M1	31%	HJ-1T1-0160-M7
	480			HJ-1-0161-M1		HJ-1-0161-M7		HJ-1T1-0161-M1		HJ-1T1-0161-M7
11	240	29%	33%	HJ-1-0162-M1	35%	HJ-1-0162-M7	33%	HJ-1T1-0162-M1	36%	HJ-1T1-0162-M7
	480			HJ-1-1063-M1		HJ-1-1063-M7		HJ-1T1-1063-M1		HJ-1T1-1063-M7
13	240	34%	37%	HJ-1-1064-M1	40%	HJ-1-1064-M7	38%	HJ-1T1-1064-M1*	41%	HJ-1T1-1064-M7*
	480			HJ-1-1065-M1		HJ-1-1065-M7		HJ-1T1-1065-M1		HJ-1T1-1065-M7
17	240	45%	49%	HJ-1-0166-M1	50%	HJ-1-0166-M7	48%	HJ-1T1-0166-M1*	52%	HJ-1T1-0166-M7*
	480			HJ-1-0167-M1		HJ-1-0167-M7		HJ-1T1-0167-M1*		HJ-1T1-0167-M7*
22	480	55%	59%	HJ-1-0168-M1	61%	HJ-1-0168-M7	59%	HJ-1T1-0168-M1*	62%	HJ-1T1-0168-M7*

¹Can be wired 1 phase—consult OGDEN

*Requires use of external contactor

MIGHTY-BLADE—45 WATTS/SQ. IN.

1 1/4" NPT—ONE ELEMENT			FIG. 25		FIG. 26		FIG. 27		FIG. 28	
KILO-WATTS	VOLTS 3 PHASE ¹	B IMMERSION LENGTH	A TOTAL LENGTH	CATALOG NUMBER	C TOTAL LENGTH	CATALOG NUMBER	D TOTAL LENGTH	CATALOG NUMBER	E TOTAL LENGTH	CATALOG NUMBER
2	240	13	17%	HJ-1-0139-M1	16%	HJ-1-0139-M7	18%	HJ-1T1-0139-M1	20%	HJ-1T1-0139-M7
2.5	240	15 1/2	19%	HJ-1-0140-M1	19%	HJ-1-0140-M7	21	HJ-1T1-0140-M1	22%	HJ-1T1-0140-M7
3	240	18	22%	HJ-1-0141-M1	21%	HJ-1-0141-M7	23 1/2	HJ-1T1-0141-M1	25 1/4	HJ-1T1-0141-M7
4	240	22%	26%	HJ-1-0142-M1	26%	HJ-1-0142-M7	28	HJ-1T1-0142-M1	29%	HJ-1T1-0142-M7
	480			HJ-1-0143-M1		HJ-1-0143-M7		HJ-1T1-0143-M1		HJ-1T1-0143-M7
5	240	27%	31%	HJ-1-0144-M1	31%	HJ-1-0144-M7	33	HJ-1T1-0144-M1	34%	HJ-1T1-0144-M7
	480			HJ-1-0145-M1		HJ-1-0145-M7		HJ-1T1-0145-M1		HJ-1T1-0145-M7
6	240	32 1/2	36%	HJ-1-0146-M1	36%	HJ-1-0146-M7	38	HJ-1T1-0146-M1	39%	HJ-1T1-0146-M7
	480			HJ-1-0147-M1		HJ-1-0147-M7		HJ-1T1-0147-M1		HJ-1T1-0147-M7
8	240	42	46%	HJ-1-0148-M1	45%	HJ-1-0148-M7	47 1/2	HJ-1T1-0148-M1	49%	HJ-1T1-0148-M7
	480			HJ-1-0149-M1		HJ-1-0149-M7		HJ-1T1-0149-M1		HJ-1T1-0149-M7
10	240	51 1/2	55%	HJ-1-1050-M1	55%	HJ-1-1050-M7	58	HJ-1T1-1050-M1	58%	HJ-1T1-1050-M7
	480			HJ-1-1051-M1		HJ-1-1051-M7		HJ-1T1-1051-M1		HJ-1T1-1051-M7

¹Can be wired 1 phase—consult OGDEN

2" NPT—ONE ELEMENT

2" NPT—ONE ELEMENT			FIG. 13		FIG. 14		FIG. 15		FIG. 16		
KILO-WATTS	VOLTS	WATT/SQ. IN.	B IMM. LENGTH	A TOTAL LENGTH	CATALOG NUMBER	C TOTAL LENGTH	CATALOG NUMBER	D TOTAL LENGTH	CATALOG NUMBER	E TOTAL LENGTH	CATALOG NUMBER
1.5	120	49	12	16%	KW-1-0309-M1	16%	KW-1-0309-M7	18%	KW-1T2-0309-M1	20%	KW-1T2-0309-M7
1.5	240	49			KW-1-0310-M1		KW-1-0310-M7		KW-1T2-0310-M1		KW-1T2-0310-M7
2	120	41	18	22%	KW-1-0311-M1	22%	KW-1-0311-M7	24%	KW-1T2-0311-M1	26%	KW-1T2-0311-M7
2	240	41			KW-1-0312-M1		KW-1-0312-M7		KW-1T2-0312-M1		KW-1T2-0312-M7

INCOLOY ELEMENTS—high watt density

2" NPT—TWO ELEMENTS				FIG. 13		FIG. 14		FIG. 15		FIG. 16	
KILO-WATTS	VOLTS	WATT/ SQ. IN.	B IMM. LENGTH	A TOTAL LENGTH	CATALOG NUMBER	C TOTAL LENGTH	CATALOG NUMBER	D TOTAL LENGTH	CATALOG NUMBER	E TOTAL LENGTH	CATALOG NUMBER
2	240	54	8	12%	KW-2-0313-M1	12%	KW-2-0313-M7	14%	KW-2T2-0313-M1	16%	KW-2T2-0313-M7
2	480	54			KW-2-0314-M1		KW-2-0314-M7		KW-2T2-0314-M1		KW-2T2-0314-M7
2.5	240	54	9½	14%	KW-2-0315-M1	14%	KW-2-0315-M7	16%	KW-2T2-0315-M1	18%	KW-2T2-0315-M7
2.5	480	54			KW-2-0316-M1		KW-2-0316-M7		KW-2T2-0316-M1		KW-2T2-0316-M7
3	240	49	12	16%	KW-2-0317-M1	16%	KW-2-0317-M7	18%	KW-2T2-0317-M1	20%	KW-2T2-0317-M7
3	480	49			KW-2-0318-M1		KW-2-0318-M7		KW-2T2-0318-M1		KW-2T2-0318-M7
4	240	41	18	22%	KW-2-0319-M1	22%	KW-2-0319-M7	24%	KW-2T2-0319-M1	26%	KW-2T2-0319-M7
4	480	41			KW-2-0320-M1		KW-2-0320-M7		KW-2T2-0320-M1		KW-2T2-0320-M7
5	240	47	19½	24%	KW-2-0321-M1	23½%	KW-2-0321-M7	26%	KW-2T2-0321-M1	27½%	KW-2T2-0321-M7
5	480	47			KW-2-0322-M1		KW-2-0322-M7		KW-2T2-0322-M1		KW-2T2-0322-M7
6	240	43	25	29%	KW-2-0323-M1	29%	KW-2-0323-M7	31%	KW-2T2-0323-M1	33%	KW-2T2-0323-M7
6	480	43			KW-2-0324-M1		KW-2-0324-M7		KW-2T2-0324-M1		KW-2T2-0324-M7
7	240	44	28	32%	KW-2-0325-M1	32%	KW-2-0325-M7	34%	KW-2T2-0325-M1	36%	KW-2T2-0325-M7
7	480	44			KW-2-0326-M1		KW-2-0326-M7		KW-2T2-0326-M1		KW-2T2-0326-M7
10	240	43	40½	45%	KW-2-0327-M1	44½%	KW-2-0327-M7	47%	KW-2T2-0327-M1*	48½%	KW-2T2-0327-M7*
10	480	43			KW-2-0328-M1		KW-2-0328-M7		KW-2T2-0328-M1		KW-2T2-0328-M7
12	240	43	48	52%	KW-2-0329-M1	52%	KW-2-0329-M7	54%	KW-2T2-0329-M1*	56%	KW-2T2-0329-M7*
12	480	43			KW-2-0330-M1		KW-2-0330-M7		KW-2T2-0330-M1*		KW-2T2-0330-M7*
15	240	48	54	58%	KW-2-0331-M1	58%	KW-2-0331-M7	60%	KW-2T2-0331-M1*	62%	KW-2T2-0331-M7*
15	480	48			KW-2-0332-M1		KW-2-0332-M7		KW-2T2-0332-M1*		KW-2T2-0332-M7*

*requires use of external contactor

2" NPT—THREE ELEMENTS				FIG. 17		FIG. 18		FIG. 19		FIG. 20		
KILO-WATTS	VOLTS	WATT/ SQ. IN.	PHASE	B IMM. LENGTH	A TOTAL LENGTH	CATALOG NUMBER	C TOTAL LENGTH	CATALOG NUMBER	D TOTAL LENGTH	CATALOG NUMBER	E TOTAL LENGTH	CATALOG NUMBER
3	240	54	1	8	12%	KW-3-0405-M1	12%	KW-3-0405-M7	14%	KW-3T2-0405-M1	16%	KW-3T2-0405-M7
		54	3			KW-3-0406-M1		KW-3-0406-M7		KW-3T2-0406-M1		KW-3T2-0406-M7
3	480	54	1	9½	14%	KW-3-0407-M1	14%	KW-3-0407-M7	16%	KW-3T2-0407-M1	18%	KW-3T2-0407-M7
		54	3			KW-3-0408-M1		KW-3-0408-M7		KW-3T2-0408-M1		KW-3T2-0408-M7
3.75	240	53	1	9½	14%	KW-3-0409-M1	14%	KW-3-0409-M7	16%	KW-3T2-0409-M1	18%	KW-3T2-0409-M7
		54	3			KW-3-0410-M1		KW-3-0410-M7		KW-3T2-0410-M1		KW-3T2-0410-M7
3.75	480	54	1	9½	14%	KW-3-0411-M1	14%	KW-3-0411-M7	16%	KW-3T2-0411-M1	18%	KW-3T2-0411-M7
		54	3			KW-3-0412-M1		KW-3-0412-M7		KW-3T2-0412-M1		KW-3T2-0412-M7
4.5	240	49	1	12	16%	KW-3-0413-M1	16%	KW-3-0413-M7	18%	KW-3T2-0413-M1	20%	KW-3T2-0413-M7
		49	3			KW-3-0414-M1		KW-3-0414-M7		KW-3T2-0414-M1		KW-3T2-0414-M7
4.5	480	49	1	12	16%	KW-3-0415-M1	16%	KW-3-0415-M7	18%	KW-3T2-0415-M1	20%	KW-3T2-0415-M7
		49	3			KW-3-0416-M1		KW-3-0416-M7		KW-3T2-0416-M1		KW-3T2-0416-M7
6	240	41	1	18	22%	KW-3-0417-M1	22%	KW-3-0417-M7	24%	KW-3T2-0417-M1	26%	KW-3T2-0417-M7
		41	3			KW-3-0418-M1		KW-3-0418-M7		KW-3T2-0418-M1		KW-3T2-0418-M7
6	480	41	1	18	22%	KW-3-0419-M1	22%	KW-3-0419-M7	24%	KW-3T2-0419-M1	26%	KW-3T2-0419-M7
		41	3			KW-3-0420-M1		KW-3-0420-M7		KW-3T2-0420-M1		KW-3T2-0420-M7
7.5	240	47	1	19½	24%	KW-3-0421-M1	23½%	KW-3-0421-M7	26%	KW-3T2-0421-M1*	27½%	KW-3T2-0421-M7*
		47	3			KW-3-0422-M1		KW-3-0422-M7		KW-3T2-0422-M1		KW-3T2-0422-M7
7.5	480	47	1	19½	24%	KW-3-0423-M1	23½%	KW-3-0423-M7	26%	KW-3T2-0423-M1	27½%	KW-3T2-0423-M7
		47	3			KW-3-0424-M1		KW-3-0424-M7		KW-3T2-0424-M1		KW-3T2-0424-M7
9	240	43	1	25	29%	KW-3-0425-M1	29%	KW-3-0425-M7	31%	KW-3T2-0425-M1*	33%	KW-3T2-0425-M7*
		43	3			KW-3-0426-M1		KW-3-0426-M7		KW-3T2-0426-M1		KW-3T2-0426-M7
9	480	43	1	25	29%	KW-3-0427-M1	29%	KW-3-0427-M7	31%	KW-3T2-0427-M1	33%	KW-3T2-0427-M7
		43	3			KW-3-0428-M1		KW-3-0428-M7		KW-3T2-0428-M1		KW-3T2-0428-M7
10.5	240	44	1	28	32%	KW-3-0429-M1	32%	KW-3-0429-M7	34%	KW-3T2-0429-M1*	36%	KW-3T2-0429-M7*
		44	3			KW-3-0430-M1		KW-3-0430-M7		KW-3T2-0430-M1		KW-3T2-0430-M7
10.5	480	44	1	28	32%	KW-3-0431-M1	32%	KW-3-0431-M7	34%	KW-3T2-0431-M1*	36%	KW-3T2-0431-M7*
		44	3			KW-3-0432-M1		KW-3-0432-M7		KW-3T2-0432-M1		KW-3T2-0432-M7
15	240	43	1	40½	45%	KW-3-0433-M1	44½%	KW-3-0433-M7	47%	KW-3T2-0433-M1*	48½%	KW-3T2-0433-M7*
		43	3			KW-3-0434-M1		KW-3-0434-M7		KW-3T2-0434-M1*		KW-3T2-0434-M7*
15	480	43	1	40½	45%	KW-3-0435-M1	44½%	KW-3-0435-M7	47%	KW-3T2-0435-M1*	48½%	KW-3T2-0435-M7*
		43	3			KW-3-0436-M1		KW-3-0436-M7		KW-3T2-0436-M1*		KW-3T2-0436-M7*
18	240	43	1	48	52%	KW-3-0437-M1	52%	KW-3-0437-M7	54%	KW-3T2-0437-M1*	56%	KW-3T2-0437-M7*
		43	3			KW-3-0438-M1		KW-3-0438-M7		KW-3T2-0438-M1*		KW-3T2-0438-M7*
18	480	43	1	48	52%	KW-3-0439-M1	52%	KW-3-0439-M7	54%	KW-3T2-0439-M1*	56%	KW-3T2-0439-M7*
		43	3			KW-3-0440-M1		KW-3-0440-M7		KW-3T2-0440-M1*		KW-3T2-0440-M7*
22.5	240	48	1	54	58%	KW-3-0441-M1	58%	KW-3-0441-M7	60%	KW-3T2-0441-M1*	62%	KW-3T2-0441-M7*
		48	3			KW-3-0442-M1		KW-3-0442-M7		KW-3T2-0442-M1*		KW-3T2-0442-M7*
22.5	480	48	1	54	58%	KW-3-0443-M1	58%	KW-3-0443-M7	60%	KW-3T2-0443-M1*	62%	KW-3T2-0443-M7*
		48	3			KW-3-0444-M1		KW-3-0444-M7		KW-3T2-0444-M1*		KW-3T2-0444-M7*

*requires use of external contactor

INCOLOY ELEMENTS—high watt density

MIGHTY-BLADE—90 WATTS/SQ. IN.											
2½" NPT—THREE ELEMENTS				FIG. 29		FIG. 30		FIG. 31		FIG. 32	
KILO-WATTS	VOLTS 3 PHASE¹	B IMMERSION LENGTH	A TOTAL LENGTH	CATALOG NUMBER	C TOTAL LENGTH	CATALOG NUMBER	D TOTAL LENGTH	CATALOG NUMBER	E TOTAL LENGTH	CATALOG NUMBER	
15	240	15%	20%	HS-3-0436-M1	19%	HS-3-0436-M7	22%	HS-3T2-0436-M1*	17½	HS-3T2-0436-M7*	
	480			HS-3-0437-M1		HS-3-0437-M7		HS-3T2-0437-M1		HS-3T2-0437-M7	
20	240	18%	23%	HS-3-0438-M1	22%	HS-3-0438-M7	25%	HS-3T2-0438-M1*	26%	HS-3T2-0438-M7*	
	480			HS-3-0439-M1		HS-3-0439-M7		HS-3T2-0439-M1*		HS-3T2-0439-M7*	
25	480	23%	28%	HS-3-0440-M1	27%	HS-3-0440-M7	30%	HS-3T2-0440-M1*	31½	HS-3T2-0440-M7*	
32	480	28%	33%	HS-3-0441-M1	33%	HS-3-0441-M7	35%	HS-3T2-0441-M1*	37	HS-3T2-0441-M7*	
38	480	33%	38%	HS-3-0442-M1	38%	HS-3-0442-M7	40%	HS-3T2-0442-M1*	42	HS-3T2-0442-M7*	

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 *Requires use of external contactor

MIGHTY-BLADE—45 WATTS/SQ. IN.											
2½" NPT—THREE ELEMENTS				FIG. 29		FIG. 30		FIG. 31		FIG. 32	
KILO-WATTS	VOLTS 3 PHASE¹	B IMMERSION LENGTH	A TOTAL LENGTH	CATALOG NUMBER	C TOTAL LENGTH	CATALOG NUMBER	D TOTAL LENGTH	CATALOG NUMBER	E TOTAL LENGTH	CATALOG NUMBER	
6	240	12	17	HS-3-0425-M1	16½	HS-3-0425-M7	19%	HS-3T2-0425-M1	20%	HS-3T2-0425-M7	
7.5	240	14½	19½	HS-3-0426-M1	19	HS-3-0426-M7	21%	HS-3T2-0426-M1	22½	HS-3T2-0426-M7	
9	240	17	22	HS-3-0427-M1	21½	HS-3-0427-M7	24%	HS-3T2-0427-M1	25%	HS-3T2-0427-M7	
12	240	21½	26½	HS-3-0428-M1	26	HS-3-0428-M7	28%	HS-3T2-0428-M1	29%	HS-3T2-0428-M7	
	480			HS-3-0429-M1		HS-3-0429-M7		HS-3T2-0429-M1		HS-3T2-0429-M7	
15	240	26½	31½	HS-3-0430-M1	31	HS-3-0430-M7	33%	HS-3T2-0430-M1*	34%	HS-3T2-0430-M7*	
	480			HS-3-0431-M1		HS-3-0431-M7		HS-3T2-0431-M1		HS-3T2-0431-M7	
18	240	31½	36½	HS-3-0432-M1	36	HS-3-0432-M7	38%	HS-3T2-0432-M1*	39%	HS-3T2-0432-M7*	
	480			HS-3-0433-M1		HS-3-0433-M7		HS-3T2-0433-M1*		HS-3T2-0433-M7*	
24	480	41	46	HS-3-0434-M1	45½	HS-3-0434-M7	48%	HS-3T2-0434-M1*	49%	HS-3T2-0434-M7*	
30	480	50½	55½	HS-3-0435-M1	55	HS-3-0435-M7	57%	HS-3T2-0435-M1*	58%	HS-3T2-0435-M7*	

¹Can be wired 1 phase
 *Requires use of external contactor

2½" NPT—THREE ELEMENTS				FIG. 21		FIG. 22		FIG. 23		FIG. 24		
KILO-WATTS	VOLTS	WATT/SQ. IN.	PHASE	B IMM. LENGTH	A TOTAL LENGTH	CATALOG NUMBER	C TOTAL LENGTH	CATALOG NUMBER	D TOTAL LENGTH	CATALOG NUMBER	E TOTAL LENGTH	CATALOG NUMBER
3	240	63	1	7%	12%	KS-3-0215-M1	11½%	KS-3-0215-M7	14%	KS-3T2-0215-M1	15½%	KS-3T2-0215-M7
		63	3			KS-3-0216-M1		KS-3-0216-M7		KS-3T2-0216-M1		KS-3T2-0216-M7
3	480	63	3	11%	16%	KS-3-0217-M1	15½%	KS-3-0217-M7	18%	KS-3T2-0217-M1	19½%	KS-3T2-0217-M7
		53	1			KS-3-0218-M1		KS-3-0218-M7		KS-3T2-0218-M1		KS-3T2-0218-M7
4.5	240	53	3	17%	22%	KS-3-0219-M1	21½%	KS-3-0219-M7	24%	KS-3T2-0219-M1	25½%	KS-3T2-0219-M7
		53	1			KS-3-0220-M1		KS-3-0220-M7		KS-3T2-0220-M1		KS-3T2-0220-M7
4.5	480	53	3	19	24	KS-3-0221-M1	23%	KS-3-0221-M7	26%	KS-3T2-0221-M1	27%	KS-3T2-0221-M7
		43	1			KS-3-0222-M1		KS-3-0222-M7		KS-3T2-0222-M1		KS-3T2-0222-M7
6	240	43	3	24%	29%	KS-3-0223-M1	28½%	KS-3-0223-M7	31½	KS-3T2-0223-M1	32½%	KS-3T2-0223-M7
		43	1			KS-3-0224-M1		KS-3-0224-M7		KS-3T2-0224-M1		KS-3T2-0224-M7
6	480	43	3	32%	37%	KS-3-0225-M1	36½%	KS-3-0225-M7	39%	KS-3T2-0225-M1	40½%	KS-3T2-0225-M7
		48	1			KS-3-0226-M1		KS-3-0226-M7		KS-3T2-0226-M1		KS-3T2-0226-M7
7.5	240	48	3	39%	43%	KS-3-0227-M1	43%	KS-3-0227-M7	47	KS-3T2-0227-M1*	48%	KS-3T2-0227-M7*
		48	1			KS-3-0228-M1		KS-3-0228-M7		KS-3T2-0228-M1		KS-3T2-0228-M7
7.5	480	48	3	47%	52%	KS-3-0229-M1	51½%	KS-3-0229-M7	54½	KS-3T2-0229-M1	55½%	KS-3T2-0229-M7
		44	1			KS-3-0230-M1		KS-3-0230-M7		KS-3T2-0230-M1		KS-3T2-0230-M7
9	240	44	3	32½	37%	KS-3-0231-M1	36½%	KS-3-0231-M7	39%	KS-3T2-0231-M1	40½%	KS-3T2-0231-M7
		44	1			KS-3-0232-M1		KS-3-0232-M7		KS-3T2-0232-M1		KS-3T2-0232-M7
9	480	44	3	39%	43%	KS-3-0233-M1	43%	KS-3-0233-M7	47	KS-3T2-0233-M1	48%	KS-3T2-0233-M7
		44	1			KS-3-0234-M1		KS-3-0234-M7		KS-3T2-0234-M1*		KS-3T2-0234-M7*
12	240	44	3	47%	52%	KS-3-0235-M1	51½%	KS-3-0235-M7	54½	KS-3T2-0235-M1	55½%	KS-3T2-0235-M7
		44	1			KS-3-0236-M1		KS-3-0236-M7		KS-3T2-0236-M1*		KS-3T2-0236-M7*
12	480	44	3	39%	43%	KS-3-0237-M1	43%	KS-3-0237-M7	47	KS-3T2-0237-M1	48%	KS-3T2-0237-M7
		44	1			KS-3-0238-M1		KS-3-0238-M7		KS-3T2-0238-M1*		KS-3T2-0238-M7*
15	240	44	3	47%	52%	KS-3-0239-M1	51½%	KS-3-0239-M7	54½	KS-3T2-0239-M1*	55½%	KS-3T2-0239-M7*
		44	1			KS-3-0240-M1		KS-3-0240-M7		KS-3T2-0240-M1*		KS-3T2-0240-M7*
15	480	44	3	39%	43%	KS-3-0241-M1	43%	KS-3-0241-M7	47	KS-3T2-0241-M1	48%	KS-3T2-0241-M7
		44	1			KS-3-0242-M1		KS-3-0242-M7		KS-3T2-0242-M1*		KS-3T2-0242-M7*
18	240	44	3	47%	52%	KS-3-0243-M1	51½%	KS-3-0243-M7	54½	KS-3T2-0243-M1*	55½%	KS-3T2-0243-M7*
		44	1			KS-3-0244-M1		KS-3-0244-M7		KS-3T2-0244-M1*		KS-3T2-0244-M7*
18	480	44	3	39%	43%	KS-3-0245-M1	43%	KS-3-0245-M7	47	KS-3T2-0245-M1*	48%	KS-3T2-0245-M7*
		44	1			KS-3-0244-M1		KS-3-0244-M7		KS-3T2-0244-M1*		KS-3T2-0244-M7*

*requires use of external contactor