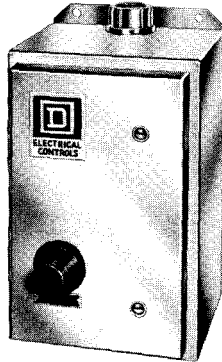




CLASS	9990 9991
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NEMA TYPE 4 AND 12 ENCLOSURES*

FOR CLASSES 8536, 8736 AND 8810 TYPE S STARTERS



NEMA Type 4
Enclosure

The enclosures listed in the table below are the standard NEMA Type 4 and 12 enclosures for use with Classes 8536, 8736 and 8810 Type S starters. They can be stocked by distributors who normally stock open type devices but have an occasional requirement for NEMA 4 or 12 enclosed devices. All enclosures include an external reset, mounting screws and instruction sheets and will accept the standard open Type S starters.

For Use With		Starter NEMA Size	Enclosure Classification			
			Water-tight Stainless Steel NEMA Type 4		Dust-tight Industrial Use NEMA Type 12	
Class	Types (All Pole Arrangements)		Class 9991 Type	Price	Class 9991 Type	Price
8536	SBO & SCO	0 & 1	SCW-1	\$ 38.	SCA-1	\$14.
	SDO	2	SDW-1	82.	SDA-1	32.
	SEO	3	SEW-1	122.	SEA-1	46.
8736	SCO	1	SCW-2	70.	SCA-2	24.
	SDO	2	SDW-2	120.	SDA-2	48.
8810	SBO & SCO	0 & 1	SCW-3	100.	SCA-3	37.

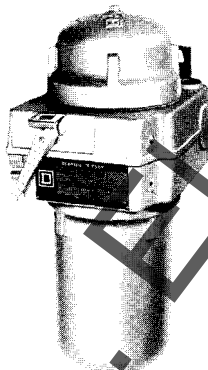
★ Flush mounting NEMA 1 enclosures are available as enclosures only for Class 8536 devices. See the Class 8536 Catalog section — pages 102 and 103.

NEMA TYPE 7-9 SPIN TOP ENCLOSURES FOR CLASS 8539 STARTERS FOR HAZARDOUS LOCATIONS

NEMA 7, Class I Groups C and D — NEMA 9, Class II Groups E, F and G

The enclosures listed in the table below are for use in customer assembly of Class 8539 combination starters.

The circuit breakers and starters used are listed under application data.



Class 9991,
Type SCR-1

For Starter NEMA Size	Enclosure Sizes (Inches)	Circuit Breaker Type*	For Starter With Breaker		
			Class	Type	Price
0 & 1	7	FA	9991	SCR-1	\$145.
2	9	FA	9991	SDR-1	183.
3	11	FA	9991	SER-1	333.
4	11	26305-	9990	FR-1	395.
5	13	LA	9990	GR-1	791.

*Size 0, 1 & 2 combination starters utilize circuit breakers of the thermal magnetic trip type as standard on applications of 240 volts or less. All others utilize adjustable magnetic only trip circuit breakers.

ORDERING INFORMATION REQUIRED

1. Enclosure class and type number

2. Quantity Required

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SUPERSEDES:
Class 9990 Price Sheet
Pages 1-2 September 1963
Pages 3-5 January, 1964

NEMA TYPE 7-9 SPIN TOP ENCLOSURES FOR CLASS 8539 STARTERS FOR HAZARDOUS LOCATIONS

NEMA 7, Class I Groups C and D — NEMA 9, Class II Groups E, F and G

ENCLOSURE ACCESSORIES

Device	Part Number	Price
★Line Coupler For Use With Type FA Circuit Breakers.	Class 9990 Type K-22	\$16.00
Transformer Mounting Plate (Size 3 and 4).....	Class 9990 Type MF-28	4.50
Transformer Mounting Plate (Size 5).....	Class 9990 Type MF-47	8.00
Drain — 1/2".....	25299-08010	3.00
Breather — 1/2".....	25299-08011	3.00
†Drain or Breather — 1/2".....	25299-08012	3.00
Silicone Thread Grease (2 oz. Tube).....	1615-100020	2.00
Lifting Hanger & Ring Assembly For 13" Tank.....	Class 9990 Type K-13	55.00
11" Ring Assembly For Use of 9990 K-13 with 11" Tanks.....	4442-C24-G1	14.00

★Ampere rating is 50. Will accommodate #14 — #4 conductor.

†Universal Type suitable for Class I Group C or D locations only.

ORDERING INFORMATION REQUIRED

1. Class and type or part number
2. Quantity Required

SPIN TOP APPLICATION DATA

CIRCUIT BREAKER*

Horse-power	208-220-240 V.				440-480 V.			550-600 V.		
	Catalog No.	Trip Amps.	Cont. Amps.	Trip Adj.	Catalog No.	Cont. Amps.	Trip Adj.	Catalog No.	Cont. Amps.	Trip Adj.
1/8-1/4	FAL-32015	15	—	—	FAL-36002M	2	LO	FAL-36002M	2	LO
1/3	FAL-32015	15	—	—	FAL-36002M	2	2	FAL-36002M	2	LO
1/2	FAL-32015	15	—	—	FAL-36002M	2	3	FAL-36002M	2	2
3/4	FAL-32015	15	—	—	FAL-36002M	2	4	FAL-36002M	2	3
1	FAL-32015	15	—	—	FAL-36002M	2	5	FAL-36002M	2	4
1 1/2	FAL-32015	15	—	—	FAL-36004M	4	3	FAL-36004M	4	2
2	FAL-32015	15	—	—	FAL-36004M	4	4	FAL-36004M	4	3
3	FAL-32020	20	—	—	FAL-36008M	8	2	FAL-36008M	8	2
5	FAL-32030	30	—	—	FAL-36008M	8	5	FAL-36008M	8	3
7 1/2	FAL-32050	50	—	—	FAL-36015M	15	3	FAL-36015M	15	2
10	FAL-32060	60	—	—	FAL-36015M	15	4	FAL-36015M	15	3
15	FAL-32090	90	—	—	FAL-36030M	30	4	FAL-36030M	30	3
20	FAL-36070M	—	70	4	FAL-36040M	40	3	FAL-36030M	30	4
25	FAL-36100M	—	100	4	FAL-36040M	40	6	FAL-36040M	40	3
30	FAL-36100M	—	100	6	FAL-36070M	70	3	FAL-36040M	40	4
40	26305-52234	—	225	2	FAL-36070M	70	5	FAL-36070M	70	3
50	26305-52234	—	225	3	FAL-36100M	100	4	FAL-36070M	70	5
60	LAL-36250M	—	250	3	26305-51031	100	4	26305-51031	100	3
75	LAL-36250M	—	250	5	26305-52234	225	2	26305-51031	100	4
100	LAL-36350M	—	350	4	26305-52234	225	3	26305-52234	225	2
125					LAL-36200M	200	5	LAL-36200M	200	3
150					LAL-36225M	225	5	LAL-36225M	225	3
200					LAL-36350M	350	5	LAL-36300M	300	3

*Breakers for 30 H.P. and less at a maximum of 240 volts are the thermal magnetic trip type. All others have an adjustable magnetic trip only. Order all breakers from the Square D Distribution Equipment Division

except for the 26305- series which should be ordered from the Industrial Control Division.

MAGNETIC STARTER

NEMA Size		0	1	2	3	4	5
Max. H.P. Rating	110 V.	2	3	7 1/2	15	—	—
	208-220 V.	3	7 1/2	15	30	50	100
	440-550 V.	5	10	25	50	100	200
Class 8539 Type		SBO-2	SCO-3	SDO-1	SEO-1	FO-1	GO-1

SQUARE D COMPANY

SCHEDULE DS-1 DISCOUNTS

Prices subject to change without notice.



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NEMA TYPE 7-9 SPIN TOP ENCLOSURES FOR CLASS 8539 STARTERS FOR HAZARDOUS LOCATIONS

NEMA 7, Class I Groups C and D — NEMA 9, Class II Groups E, F and G

SPIN TOP APPLICATION DATA

MODIFICATIONS — MAGNETIC STARTER

With the exception of the pneumatic timer attachment, all modifications applicable to the basic starter, as listed in the Class 8536 Catalog Section, can also be added to the Class 8539 starters in SPIN TOP enclosures.

MODIFICATIONS — CIRCUIT BREAKER

Type FA and LA circuit breakers are available with higher interrupting capacity than standard, with auxiliary control switches and with an alarm switch.

MODIFICATIONS — ENCLOSURE MOUNTED CONTROL UNITS

Class 9999 push button and selector switch kits can be added to the collar of NEMA Types 7 & 9 SPIN TOP enclosures by threading them into the plugged holes which are provided. Pilot light kits can be installed only in collars which have been provided with the proper plugged holes at the factory. Plugged holes for pilot lights can be provided as Form Y72 (1 hole) and Form Y73 (2 holes). See "Additions and Special Features" section for price adders. See the Class 9999 catalog section for control unit kit prices.

Kit Description			Class 9999 Type
START-STOP Push Button			SA-7
HAND-OFF-AUTO Selector Switch			SC-3
Pilot Lights	120V-60HZ	110V-50HZ	SP-22‡
	240V-60HZ	220V-50HZ	SP-23‡▲
	580V-60HZ	440V-50HZ	SP-24‡▲
	600V-60HZ	550V-50HZ	SP-25‡▲

‡ Add suffix to type number to specify lens color: R-red, G-green, A-amber W-white.

▲ These are transformer type with 120V secondary.

MODIFICATIONS — CONTROL TRANSFORMER

All SPIN TOP enclosures have space for the addition of a standard capacity control transformer. In size 0 thru 2 devices the control transformer mounts directly on the starter mounting frame. In size 3 thru 5 devices the transformer mounts in the collar section behind the starter mounting frame. A mounting plate is required for the size 3 and 4. For control transformer prices refer to the Class 9070 catalog section. See Class 9990-9991, page 102 for mounting plate prices.

For Starter NEMA Size	Mounting Plate Class 9990 Type	Transformer Class 9070 Type
0 & 1	—	EO-1
2	—	EO-2
3 & 4	MF-28	EO-3
5*	MF-47	EO-1†

* Does not apply for a starter having three overload relays.

† A Class 8501 Type DO-20 control relay is used with the transformer in the Size 5 starter.

www.ElectricalPartManuals.com



Separate Enclosures

CONTENTS

Description	Class	Pages
Enclosure Selections		
NEMA Type 1.....	9991.....	3
NEMA Types 4, 4X, 12 and Flush Mounting	9991.....	2
NEMA Type 3R	9991.....	3
Oversized NEMA Types 1, 4 & 12 ..	9991.....	4
Modification for Outdoor Applications ..	9991.....	3
Control Unit Selection Table	9991.....	4

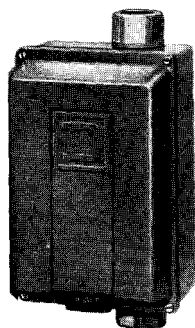
SEPARATE ENCLOSURES — STANDARD NEMA TYPES 4, 4X, 12 AND FLUSH MOUNTING FOR CONTACTORS AND STARTERS

APRIL, 1983

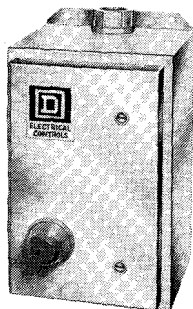
Separate enclosures can be used with open style devices for occasional field assembly of enclosed controls. Field assembly of these enclosures plus the open style components, will be equivalent to a factory assembled device.

NEMA Types 4 and 12 Class 9991 separate enclosures for Type S devices are provided as standard without closing plates or can be ordered with two closing plates for Sizes 0-2, 30-60 ampere or three closing plates for Sizes 3-4, 100 ampere. When closing plates are removed the cover openings can be used for easy installation of Class 9001 Type K oiltight cover mounted control units. (Refer to Control Unit selection table on page 4.)

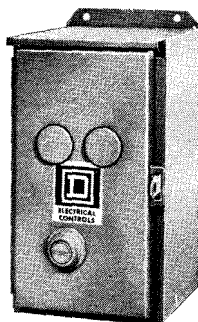
Flush Mounting General Purpose separate enclosures for Type S Sizes 0-2, 30-60 ampere are provided with knock-outs in the cover for field assembly of one Class 9999 push button or selector switch kit and one Class 9999 pilot light kit. (Refer to Class 9999 for selection.) For Type S Size 3, 100-200 ampere, three closing plates are provided for installation of Class 9001 Type K oiltight control units. Cover mounted control units for **NEMA Type 4X** separate enclosures are not available for field assembly.



Type SCW-21
NEMA Type 4X
Enclosure



Type SCW-1
NEMA Type 4
Enclosure



Type SCA-11
NEMA Type 12 Enclosure
with 2 cover mounted
closing plates



Flush Mounting Starter "With
Pull Box and Mounting Strap.
Having Plaster Adjustment Feature"

CLASS 9991 SEPARATE ENCLOSURES

For Use With		NEMA Size or Amp. Rating	Enclosure Classification																	
			Watertight, Dusttight and Corrosion-Resistant Glass-Polyester NEMA Type 4X				Watertight and Dusttight Stainless Steel NEMA Type 4				Dusttight and Driptight Industrial Use NEMA Type 12				Flush Mounting General Purpose (Components)					
			Standard		With Closing Plates		Standard		With Closing Plates		Standard		Stainless Steel		Mounting Strap		Pull Box			
Class	Types (All Pole Arrangements)	Type	Price	Type	Price	Type	Price	Type	Price	Type	Price	Type	Price	Type	Price	Type	Price	Type	Price	
MANUAL STARTERS																				
2510	MBO & MCO	M-0 M-1 M-1P	MW-1	\$136.	MW-11	\$136.	....	....	MA-1	\$ 36.	....	..	MF-1 MF-2	\$ 60. (with pullbox & plaster adjustment) 36. (without pullbox but with mtg. strap)						
MAGNETIC CONTACTORS																				
8502★	SBO & SCO	0, 1	SCW-20	152.	SCW-1	152.	SCW-11	160.	SCA-1	56.	SCA-11	64.	SCF-11	16.	SCF-12	\$ 56.	SCF-2	\$20.	SCF-1	\$24.
	SDO	2	SDW-20	328.	SDW-1	328.	SDW-11	336.	SDA-1	128.	SDA-11	136.	SDF-11	48.	SDF-12	108.	SDF-2	28.	SDF-1	32.
	SEO	3	....	..	SEW-1	488.	SEW-11	496.	SEA-1	184.	SEA-11	192.	SEF-11 248. (Enclosure Complete)							
	SFO	4	....	..	....	..	SFW-11	876.	....	..	SFA-11	520.	....	..	....	..	....	..	....	..
MAGNETIC STARTERS																				
8536	SBO & SCO	0, 1	SCW-21	152.	SCW-1	152.	SCW-11	160.	SCA-1	56.	SCA-11	64.	SCF-11	16.	SCF-12	56.	SCF-2	20.	SCF-1	24.
	SDO	2	SDW-21	328.	SDW-1	328.	SDW-11	336.	SDA-1	128.	SDA-11	136.	SDF-11	48.	SDF-12	108.	SDF-2	28.	SDF-1	32.
	SEO	3	....	..	SEW-1	488.	SEW-11	496.	SEA-1	184.	SEA-11	192.	....	..	....	..	....	..	....	..
	SFO	4	....	..	....	..	SFW-11	876.	....	..	SFA-11	520.	....	..	....	..	....	..	....	..
LIGHTING CONTACTORS NON-COMBINATION ELECTRICALLY & MECHANICALLY HELD																				
8903★	LO & LLO	20 Amp	....	..	LW-1	144.	....	..	LA-1	128.	....	..	LF-1	80. (Includes Flush Plate and Pull Box)						
	SMO	30 Amp	SCW-20	152.	SCW-1	152.	SCW-11	160.	SCA-1	56.	SCA-11	64.	SCF-11+	16.	SCF-12	56.	SCF-2	20.	SCF-1	24.
	SPO	60 Amp	SDW-20	328.	SDW-1	328.	SDW-11	336.	SDA-1	128.	SDA-11	136.	SDF-11+	48.	SDF-12	108.	SDF-2	28.	SDF-1	32.
	SQO	100 Amp	....	..	SEW-1	488.	SEW-11	496.	SEA-1	184.	SEA-11	192.	SEF-11	248. (Enclosure Complete)						
	SVO	200 Amp	....	..	....	..	....	..	....	..	....	..	SEF-11	248. (Enclosure Complete)						
REVERSING AND TWO SPEED HORIZONTALLY ARRANGED CONTACTORS AND STARTERS																				
8702★ 8736	SCD SDO	1 2	....	..	SCW-2 SDW-2	280. 480.	....	..	SCA-2 SDA-2	96. 192.	....	..	....	..	....	..	....	..	....	..
8810	SBO & SCO	0, 1	....	..	SCW-3	400.	....	..	SCA-3	148.	....	..	....	..	....	..	....	..	....	..

★ For contactors, replace reset assembly with proper closing plate; for NEMA Type 4 use Class 9001 Type K52, for NEMA Type 12 use Class 9001 Type K51 or K11. For Flush Mounting use Class 9999 Type SG-2 except for Class 9991 Type SEF-11 which requires a Class 9001 Type K51 or K11 closing plate. Class 9991 Types SCW-20, SDW-20, SEF-11 and LF-1 are designed for contactors only, reset closing plates not required.

† For electrically held devices only. For mechanically held 30 amp Type SM, order Class 9991 Type SCF-13 ... \$16., for 60 amp Type SP, order Class 9991 Type SDF-13 ... \$48.

■ For electrically held devices only.

DIMENSIONS — REFER TO CONTACTOR OR STARTER CATALOG SECTION

ORDERING INFORMATION REQUIRED — Class and type number of kit.

D1B DISCOUNT

SQUARE D COMPANY



SEPARATE ENCLOSURES — OVERSIZED FOR CONTACTORS AND STARTERS

APRIL, 1983

NEMA TYPES 1, 4 & 12 ENCLOSURES

For Addition of Control Circuit Transformer Classes 8502 and 8536

The enclosures listed below will accept Type S, NEMA Sizes 0, 1, 1P and 2 contactors and starters, along with a fused control circuit transformer. Class 9991 Type SCG-1 enclosure cover includes knockouts for field addition of Class 9999 cover mounted control units. All other enclosures listed in table below are provided with three closing plates in the cover for easy installation of Class 9001 Type K oiltight control units.

For Use With				Class 9991 Enclosure						Recommended Class 90700 Transformer Selection						Fuse Block
				General Purpose NEMA Type 1		Watertight and Dusttight Stainless Steel NEMA Type 4		Dusttight and Driptight Industrial Use NEMA Type 12		Standard		Extra Capacity				
												100VA	150VA	300VA		
Class	Type	NEMA Size	No. of Poles	Type	Price	Type	Price	Type	Price	Type	VA	Type	Type	Type	Class 9080 Type PF-1	
* 8502 & 8536	SBO & SCO	0 & 1	1-3	SCG-1	\$56.	SCW-4	\$192.	SCA-4	\$96.	EO-1	50VA	EO-2Δ	EO-3Δ	....		
			4-5						EO-2	100VA	....	EO-3Δ	....			
	SDO	2	2-5	SDG-4	110.	SDW-4	398.	SDA-4	198.	EO-2	100VA	....	EO-3	EO-4		

Δ For mounting in SCG-1 enclosure a Class 9991 Type S1 adapter bracket is also required \$12. List.

● For price lists and complete descriptions, see Class 9070 and 9080 sections. Note: Class 9991 Type SCG-1 enclosure is provided with a Class 9080 Type PF-1 fuse block as standard.

* For contactors (Class 8502), a separate closing plate is provided with each enclosure to replace the reset mechanism with the exception of Class 9991 Type SCG-1 which requires a separate reset closing plate Class 9999 Type SG-2 \$4.00 List.

NEMA TYPES 1, 4 & 12 FOR CLASS 8903

The enclosures listed below are for use with electrically and mechanically held open type Class 8903 Type L 20 amp and Type S 30 and 60 amp lighting contactors. These enclosures include a panel with space and drilling for an open type contactor and fused control circuit transformer (Form FT) and/or an auxiliary relay for use with single pole pilot devices (Form R6). In addition, three closing plates are provided as standard for easy installation of Class 9001 Type K oiltight control units. See Class 8903 for selection of transformers and relays.

For Use With			Enclosure					
			General Purpose Enclosure NEMA Type 1		Watertight and Driptight Enclosure Stainless Steel NEMA Type 4		Dusttight and Driptight Industrial Use Enclosure NEMA Type 12	
			Class 9991 Type	Price	Class 9991 Type	Price	Class 9991 Type	Price
8903	LO, LLO, SMO, SPO	20 Amp, 30 Amp, 60 Amp.	** SDG-3	\$112.	SDW-3	\$328.	SDA-3	\$192.

**Class 9991 Type SCG-1 separate enclosure can also be used for Class 8903 Type SMO, 30 ampere electrically held lighting contactor if Form FT (control transformer) with or without cover control units is required.

NEMA TYPE 1 FOR CLASS 2510 TYPES F & K

The oversized NEMA Type 1 separate enclosures listed below are for use with Class 2510 Type F Fractional Horsepower Manual Starters and Type K Motor Starting Switches. These enclosures provide additional wiring space for easy installation of open style devices.

For use with Class 2510 Type	Oversized NEMA Type 1 General Purpose Enclosure	
	Class 9991 Type	Price
FO-1, FO-1P, FO-2, FO-2P, FO-3, FO-3P, FO-4, FO-4P	FE-1	\$8.00
KO-1, KO-1A, KO-1B, KO-2, KO-2B, KO-2C, KO-3, KO-3A, KO-3B, KO-4, KO-4B, KO-4C	KE-1	8.00

CONTROL UNIT SELECTION TABLE

Class 9001 Type K oiltight control units can be easily installed in NEMA Types 4 and 12 separate enclosures provided with closing plates. When installing control units simply remove the closing plates and install the proper Class 9001 Type K components. Refer to table below for the specific operators required. (For NEMA Type 4 applications, Class 9001 Type SK NEMA 4X Corrosion Resistant control units may be used as an alternate.)

SELECTION TABLE

Control Function	Class & TypeΔ	Description	NEMA Type 4 Quantity Required	NEMA Type 12* Quantity Required
Start-Stop	9001 KR-1B	Start Operator	1	1
	9001 KR-1R	Stop Operator	1	1
	9001 KN-201	"Start" Legend Plate	—	1
Push Button	9001 KN-202	"Stop" Legend Plate	—	1
	9001 KA-1	Contact Block	2	2
	9001 KU-1	Protective Cap	1	—
	9001 KU-2	Protective Cap	1	—
	9001 KN-801	"Start" Legend Plate	1	—
Hand-Off-Auto	9001 KS-43B	Selector Switch Operator	1	1
	9001 KN-260	"Hand-Off-Auto" Legend Plate	—	1
	9001 KA-1	Contact Block	1	1
Selector Switch	9001 KU-17	Protective Cap	1	—
	9001 KN-860	"Hand-Off-Auto" Legend Plate	1	—
Pilot Light (120 V)	9001 KP-1R6■	Red Pilot Light	1	1
	9001 KU-27	Protective Cap	1	—

* When Class 9001 Type K units are required in NEMA 1 enclosures, use the NEMA Type 12 selection.

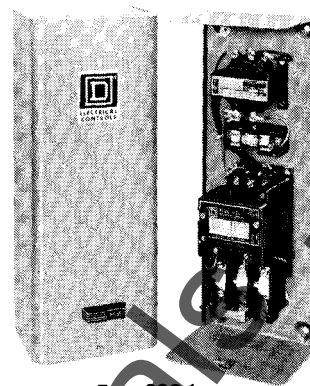
Δ For prices refer to Class 9001 section.

■ For additional voltages refer to Class 9001 section.

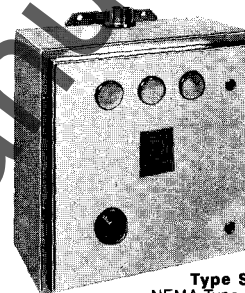
ORDERING INFORMATION REQUIRED — Class and type number

D1B DISCOUNT

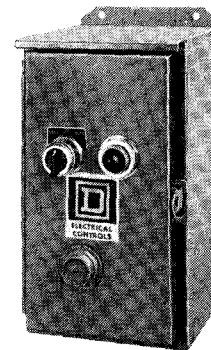
SQUARE D COMPANY



Type SCG-1
NEMA Type 1 Enclosure
With Starter, Transformer
and Fuse Block Installed



Type SCW-4
NEMA Type 4 Enclosure



SEPARATE ENCLOSURES — STANDARD

NEMA TYPE 1 ENCLOSURES FOR CONTACTORS,
RELAYS, STARTERS, TIMERS AND TRANSFORMERSCLASS
9991

The NEMA Type 1 General Purpose separate enclosures listed below, when used with open style components, will be equivalent to a standard factory assembled control device. For dimensions, refer to the particular control device catalog section.

For Use With			General Purpose NEMA Type 1 Enclosure		For Use With			General Purpose NEMA Type 1 Enclosure		
			Class 9991					Class 9991		
Class	Type	No. of Poles	Type	Price	Class	Type	No. of Poles	Type	Price	
7001	DO	2-4	UE-6	\$28.	8903	LO, LLO	All	LG-1	\$40.	
		6-8	UE-3		8903	SMO	2-5	SCG-7	16.	
	J	All	UE-6			SPO	2-5	SDG-7	40.	
8501	CO	All	UE-1	14.50	8910	SQO	2-5	SEG-7	80.	
	DDO, DEO	All	UE-3	9050		H, J, K, L & M	All	UE-6	28.	
	DO	2-4	UE-6		AO (Single Head)	All				
		6-8	UE-3		BO, CO	All	BCG	40.		
	GO	2-4 W/O Attachments	UE-6		HO	All	UE-6	28.		
		6-8, 2-4 W/ Attachments	UE-7	TO	All	UE-7				
	HO	All	LG-1	40.	9055	AO, BO, NO 101-121	—	G-1		
	LO, LSO	All	UE-7	28.		AO, BO, NO 122-123	—	G-2	72.	
	8502	SAO, SBO, SCO	All	SCG-7		16.	AO, BO, NO 124-125	—	G-3	
		SDO	All	SDG-7		40.	AO, BO, NO 126	—	G-4	78.
SEO		2-5	SEG-7	80.	9070	EO-1, EO-17	—	TB-1	28.+	
SFO	2-5	SFG-7	168.	EO-2, EO-3 EO-4, EO-15, EO-16, EO-18, EO-19		—	TB-2	36.+		
8508	DO	2-4	UE-7	28.		EO-51, EO-61	—	TB-3	60.+	
8536	SAO, SBO, SCO	2-4	SCG-8	16.		EO-71	—	TB-4	90.+	
	SDO	2-4	SDG-8	40.		EO-81, EO-91	—	TB-5	90.+	
	SEO	2-4	SEG-8▲	80.						
	SFO	2-4	SFG-8△	168.						

△ Enclosure suitable for starter with melting alloy type overload relays ONLY

■ For electrically held contactors only.

+

D8 DISCOUNT

NEMA TYPE 3R ENCLOSURES FOR CONTACTORS AND STARTERS

Field assembly of equipment for outdoor applications is made easy with the Class 9991 Type SCH-1 enclosure because of a predrilled panel that will accept an open style Class 8502 or 8536 Type S, Sizes 00-2 or a Class 8903 Type S 30-60 amp device.

This NEMA Type 3R enclosure is provided with four closing plates as standard. When closing plates are removed, the cover openings can be used for easy installation of Class 9001 Type K, cover mounted control units. For contactors, replace the reset assembly with a Class 9001 Type K51 closing plate.

Each enclosure is provided with a closing cap. If a conduit connection is made to the top of the enclosure, a Square D watertight hub, listed in Digest 162 on page 41, must be used in accordance with NEC and local code requirements.

In addition to this NEMA Type 3R enclosure, Square D's NEMA Type 12 enclosures can also be modified for outdoor use. Refer to paragraph below

For Use With		NEMA Type 3R Rainproof — Class 9991	
Class	Type	Type	Price
8502 & 8536	SAO, SBO, SCO, SDO	SCH-1	\$64.
8903	SMO, SPO		

NEMA TYPE 12 ENCLOSURES MODIFIED FOR OUTDOOR APPLICATIONS

Square D NEMA 12 enclosures may be field modified for outdoor use per the following instructions:

Field Modification for NEMA Type 3 dusttight, raintight and sleet resistant outdoor applications are as follows:

1. Watertight conduit hubs or equivalent provision for watertight connection at the conduit entrance shall be used.

Field Modifications for NEMA Type 3R rainproof and sleet resistant outdoor applications are as follows:

1. Watertight conduit hubs or equivalent provision for watertight connection at the conduit entrance, when the conduit enters at a level higher than the lowest live part, shall be used.
2. Drain holes of 1/8 inch diameter shall be added to the bottom of the enclosure.

ORDERING INFORMATION REQUIRED

Class and type number of kit.

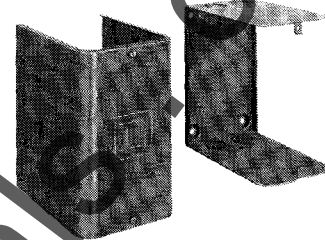
FOR DIMENSIONS REFER TO DEVICE

CATALOG SECTION.



SQUARE D COMPANY

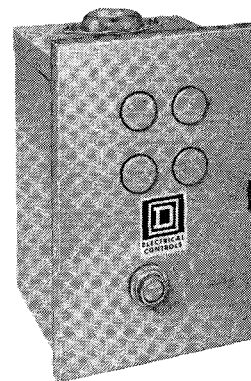
D1B DISCOUNT



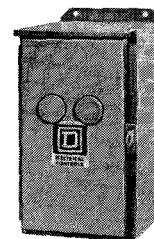
Type UE-3
NEMA Type 1 Enclosure



Type SCG-8
NEMA Type 1 Enclosure



Type SCH-1
NEMA Type 3R Enclosure



NEMA Type 12
Modified

AC MAGNET COILS FOR OBSOLETE DEVICES

COILS

The AC magnet coils listed below were used on magnetic contactors and starters which have been obsolete for over 20 years. These coils can be ordered for replacement purposes, however, in

most cases, stock is not readily available. Contact your local Square D Field Office for delivery information.

AC MAGNET COILS FOR OBSOLETE DEVICES

Where Used				Coil Specification Number	Hz	SUFFIX NUMBERS (Complete Part Number Consists of Specification Number Followed by Suffix Number, as 1861-S1-R16A)														Coil Volt Amperes		Price
Device	Size	Type	Poles			60 Volts	120 Volts	240 Volts	110-115 Volts	120 Volts	208 Volts	220 Volts	240 Volts	277 Volts	440 Volts	480 Volts	550 Volts	600 Volts	In-rush	Sealed		
Magnetic Contactors and Starters	0	R	2-4	1861-S1	60 50 25	R16A R17B R19B	R19B R20B R22B	R22B R23B R25B	R29B R30A R32B	R30A R31A R33A	R32B R33A ...	R32B R33A R35B	R33A R34A R36A	R33B ...	R35B+ R36A R36B	R36A R37A R39A	R36B R37A R39B	R37A R38A R39C	160 120 65	30 26 18	\$30. 30. 30.	
			5-8	1861-S1	60 50 25	R16A R17B R18C	R19B R20B R21C	R22B R23B R24C	R29B R30A R31C	R30A R31A R31C	R32B R33A ...	R32B R33A R34C	R33A R34A R35B	R33B ...	R35B+ R36A R37C	R36A R37A R38B	R36B R37A R38C	R37A R38A R39C	160 120 80	30 26 20	\$30. 30. 30.	
	1	*C & S	All	2936-S1 (Formerly 1487-S1)	60 50 25	...	...	C19A C20A C22A	C26B C27B C29B	C27A C28A C30A	C29B ...	C29B C30B C32B	C30A C31A C33A	C30B ...	C32B C33B C35B	C33A C34A C36A	C33B C34B C36B	C34A C35A C37A	170 125 100	40 27 24	\$36. 36. 36.	
	2	T	2-4	1707-S1	60 50 25	...	T10B T11A T13A	T13B T14A T16A	T20A T21 T22B	T21 T21A T23A	T23A ...	T23A T24 T25B	T24 T24A T26A	T24A ...	T26A+ T26B T28B	T26B T27A T29A	T27A T27B T29B	T27B T28A T30A	465 400 340	80 65 51	\$39. 39. 39.	
	3	U	2-4	1775-S1	60 50 25	...	...	U11A U12A U14A	U17B U18A U20B	U18A U19A U21A	U20D ...	U21A U22A U23B	U21A U22A U24A	U21B ...	U23B+ U24A U26B	U24A U25A U27A	U24B U25A U27B	U25A U26A ...	800 600 450	150 120 90	\$78. 78. 78.	
	4	V	2-3	2095-S1	60 50 25	...	...	...	15A V15B V18A	V15B V16A V18B	V18A ...	V18A V19A V21B	V18B V19B V22A	V19B ...	V22A V22A V25A	V22B V23A V26A	V22B V23A V26A	V23A V23B V26B	2500 2100 1255	270 225 135	\$240. 240. 240.	
			4-6	2095-S2	60 50 25	...	...	...	V13B V14B V16B	V14A V14B V17A	V16B ...	V16B V17B V19B	V17A V17B V20A	V17B ...	V19B V20B V22B	V20A V20B V23A	V20B V21B V23B	V21A V22A V24A	3850 3200 1925	370 310 185	\$240. 240. 240.	
	4	F Series A & B	2-3	2938-S1	60 50 25	...	...	...	F14B F15B F17B	F15A F16A F18A	F17B ...	F17B F18B F20B	F18A F19A F21A	F17B ...	F20B F21B F24	F21A F22A F24A	F21B F22B F25	F22A F23A F25A	1800 1400 110	150 110 108	\$108. 108. 108.	
			4-5	2938-S1	60 50 25	...	...	...	F14A F15A F17A	F14B F15B F17B	F17A ...	F17A F18A F20A	F17B F18B F20B	F17A ...	F20A F21A F23A	F20B F21B F23B	F21A F22A F24A	F21B F22B F25B	2300 1800 1270	206 180 132	\$108. 108. 108.	
	5	G Pre-Series A	2-4	1331-S8	60 50 25	...	...	...	W12B W13B W15B	W13A W14A W16A	W15B ...	W15B W16B W18B	W16A W17A W19A	W16B ...	W18B W19B W21B	W19A W20A W22A	W19B W20B W22B	W20A W21A W23A	6000 5000 3000	430 360 215	\$240. 240. 240.	
	5	G Series A	2-3	1331-S10	60 50 25	...	...	...	W14B W15B W17B	W14C W15C W17C	W17B ...	W17B W18B W20B	W17C W18C W20C	W18C ...	W20B W21A W24B	W20C W21A W24B	W21B W22C W25B	W22B W23B W25C	4600 3700 3000	390 325 210	\$120. 120. 120.	
			4-5	1331-S10	60 50 25	...	...	...	W14A W14B W17A	W14B W15B W17B	W17A ...	W17A W17B W20A	W17B W18B W20B	W18B ...	W20A W20C W23C	W20B W21A W23C	W20C W22A W24B	W21B W22C W25B	4600 3700 3000	390 325 210	\$120. 120. 120.	

Ⓢ Coils are rated for intermittent duty only.
 ‡ Coils also rated 380 volts, 50 hertz.
 * Pre-Series A devices only.
 † VA values for these coils are 120% of the values shown.



DC MAGNET COILS FOR OBSOLETE DEVICES

Devices Using Coil			Volts	Coil Part Number	Coil Resistance Ohms (Cold)	Protective Resistance Ohms	Coil Amperes (Cold)	Price
Size	Type	Poles						
‡Classes 7002, 7135, 7136, 7735, 7736 (Normally Open)								
0 & 1	R & S	1 & 2	57½	1475-S1-W31	320	....	.180	\$128.
		1 & 2	115	1475-S1-W34	1125	....	.102	128.
		1 & 2	230	1475-S1-W37	4500	....	.052	128.
		1	560	1475-S2-W36	4320	8000	.045	132.
2	T	1 & 2▲	57½	1476-S1-W28	193	....	.298	154.
		1 & 2▲	115	1476-S1-W31	785	....	.148	154.
		1 & 2▲	230	1476-S1-W34	3040	....	.076	154.
		1	550	1476-S2-W37	14850	....	.037	154.
3	U	1 & 2▲	57½	1477-S4-W27	150	....	.383	159.
		1 & 2▲	115	1477-S4-W30	590	....	.195	159.
		1 & 2▲	230	1477-S4-W33	2360	....	.097	159.
		1	550	1477-S5-W36	12500	....	.044	167.
4	V	1 & 2▲	57½	1478-S1-W26	158	....	.364	188.
		1 & 2▲	115	1478-S1-W29	568	....	.203	188.
		1 & 2▲	230	1478-S1-W32	2270	....	.101	188.
		1	550	1478-S2-W35	11400	....	.048	178.
5	W	1 & 2▲	57½	1479-S1-W24	85	....	.679	246.
		1 & 2▲	115	1479-S1-W27	350	....	.330	246.
		1 & 2▲	230	1479-S1-W30	1420	....	.162	246.
6	X	1 & 2†	57½	1479-S1-W24	85	....	.677	246.
		1 & 2†	115	1479-S1-W27	350	....	.328	246.
Class 7003 (Normally Closed)								
1	S	1	115	1476-S1-W31	740	....	.148	154.
			230	1476-S1-W34	3040	....	.076	154.
			550	1476-S2-W37	14850	....	.037	154.
2	T	1	115	1477-S4-W30	590	....	.195	159.
			230	1477-S4-W33	2360	....	.097	159.
			550	1477-S5-W36	12500	....	.044	167.
4	V	1	115	1811-S1-W25	265	....	.435	372.
			230	1811-S1-W28	1052	....	.219	372.
			550	1811-S2-W32	8000	....	.069	250.
5	W	1●	57½	1479-S1-W24	85	....	.677	246.
			115	1479-S1-W27	350	....	.328	246.
Classes 7702, 7732								
1	S	All	32	1487-S66-27-32	....	....	....	130.
			115	1487-S66-33-38	....	....	....	130.
			230	1487-S66-36-41	....	....	....	130.

■ As coil warms up, the resistance will increase, reducing the current approximately 20%.

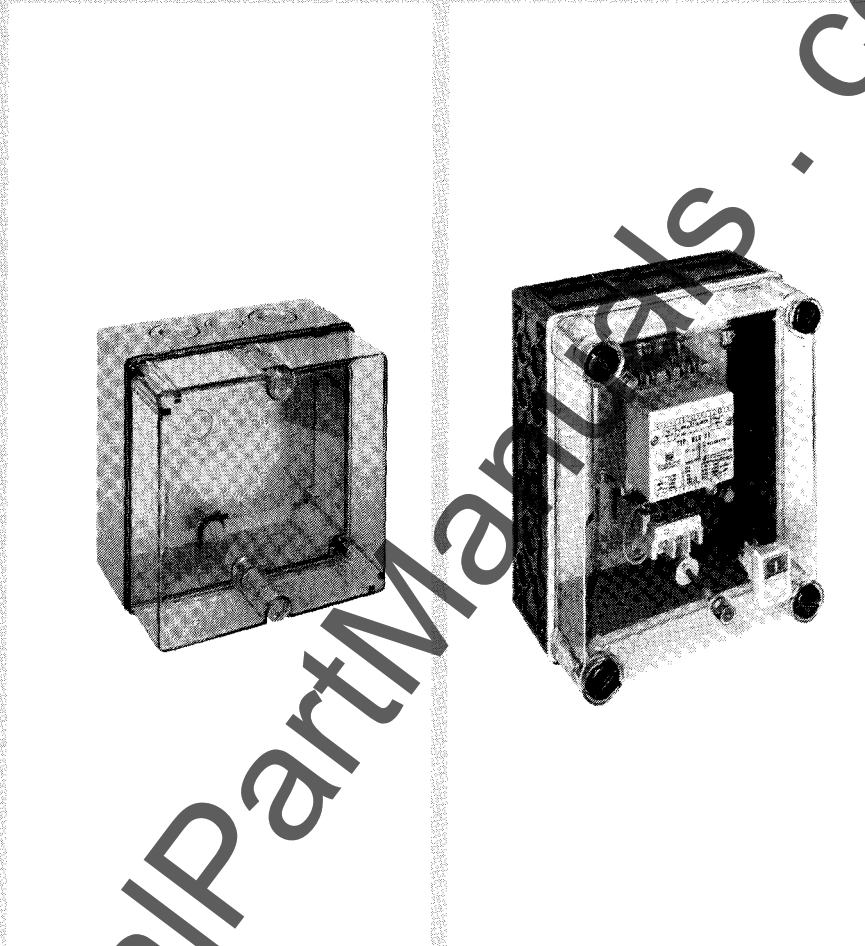
▲ Two pole contactors have 2 half voltage coils connected in series. Example: A two pole contactor operating from a 115 V. line requires two 57½ volt coils.

† Size 6 single pole contactors have 2 half voltage coils connected in series, and two pole contactors have 4 half voltage coils connected in series parallel.

‡ For starters with dynamic braking, coils of voltages other than those shown above may be required in addition.

● This Size 5 device has 2 half voltage coils connected in series. Example: For operation from a 115 V. line two 57½ volt coils are required.





INTERNATIONAL CONTROL PRODUCTS Separate Enclosures

CONTENTS

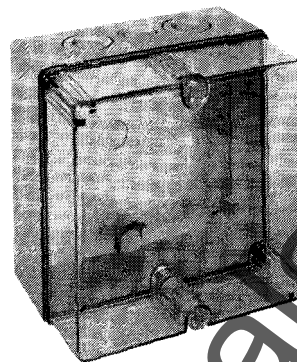
Description	Class	Pages
Enclosure Selections	9991	2-IP
Dimensions	9991	3-IP



SQUARE D COMPANY

SEPARATE ENCLOSURES FOR CONTACTORS, RELAYS AND STARTERS

OCTOBER, 1982



Class 9991 Type LK3

Class 9991 Separate Enclosures are used with open style devices for field assembly of enclosed controls. These enclosures are Dust-tight and Corrosion Resistant. Each enclosure cover is Transparent Polycarbonate and when required, will accept Class 9001 oil tight control units. The enclosures listed below are for use with Class 8501 relays and Classes 8502, 8536, 8702 and 8736 contactors and starters.

CLASS 9991 SEPARATE ENCLOSURES

Contactor & Relay Enclosures				Starter Enclosures★			
For use with		Dusttight and Corrosion Resistant Class 9991 Enclosure		For use with		Dusttight and Corrosion Resistant Class 9991 Enclosure	
Class	Type	Type	Price	Class	Type	Type	Price
8501	H8 HG8	LK-1	\$38.	8536	DNMR8	LK-2	\$43.
	H9 HG9 PH	LK-2	43.		DNTUP9 DNTUP11 PDTUP2,3 DLSTUP16 DLSTUP26	LK-4	50.
8502	DN8	LK-1	38.		DLSTUP31 DLSTUP46 DLSTUP61	LK-10	195.
	DN9 DN11	LK-2	43.		DLSM46 DLSM61 DLSM81 DLSM101	LK-11	218.
	DLS16 DLS26	LK-3	47.		DLSM151 DLSTMW151 DLSTMW201	LK-14	283.
	DLS31 DLS46 DLS61	LK-9	180.	8736	WSMR8	LK-5	83.
	DLS81 DLS101	LK-10	195.		WSTUP9 WSTUP11	LK-6	98.
	DLS151 DLS201	LK-12	236.		WSTUP16 WSTUP26	LK-7	130.
8702	WS8	LK-5	83.		WSTUP31 WSTUP46 WSTUP61	LK-10	195.
	WS9 WS11	LK-6	98.		WSM46 WSM61	LK-11	218.
	WS16 WS26	LK-7	130.		WSM81 WSM101	LK-13	256.
	WS31 WS46 WS61	LK-10	195.	8630	SDMR9 SDMR11 SDTUP9 SDTUP11	LK-9	180.
	WS81 WS101	LK-11	218.		SDTUP16	LK-10	195.
8630	SD9 SD11	LK-9	180.		SDTUP26	LK-11	218.
	SD16	LK-10	195.		SDTUP31 SDTUP46 SDTUP61	LK-15	383.
	SD26	LK-11	218.				
	SD31 SD46 SD61	LK-15	383.				

ORDERING INFORMATION REQUIRED
Class and type number.

★If reset assembly is required, refer to Class 9066 Type RA assemblies in the Class 9055, 9065, 9066 Control Catalog section.



SEPARATE ENCLOSURES FOR CONTACTORS, RELAYS AND STARTERS

INTERNATIONAL
PRODUCTS
CLASS
9991

APPROXIMATE DIMENSIONS AND WEIGHTS

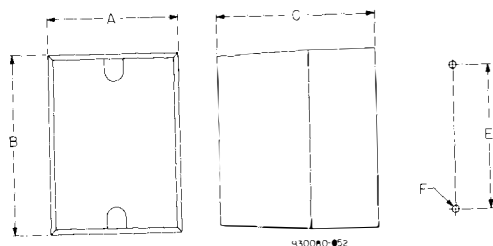


Figure 1

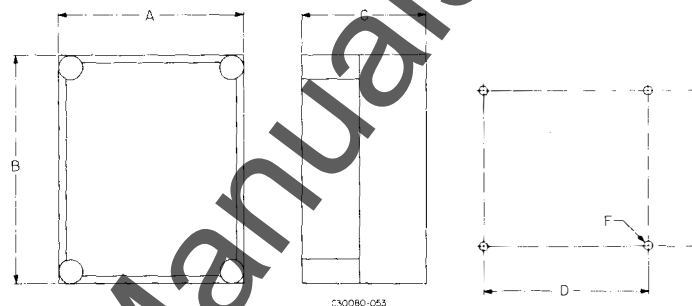


Figure 2

MAGNETIC CONTACTOR AND RELAY

For Use With		Enclosure Type No.	Fig.	Dimensions — Inches/MMs						Weight Lbs./Kgs.
Class	Type			A	B	C	D	E	F	
8501 & 8502	DN8 H8 HG8	LK-1	1	3.4 87	4.6 116	4.1 104	—	3.7 93	0.18 4.5	0.6 0.27
	DN9 DN11 H9 HG9 PD	LK-2	1	3.4 87	5.9 149	5.0 128	—	5.0 128	0.18 4.5	0.9 0.41
	DLS16 DLS26	LK-3	1	4.3 110	6.5 165	5.0 128	—	5.7 144	0.18 4.5	1.3 0.58
	DLS31 DLS46 DLS61	LK-9	2	9.6 244	9.6 244	6.5 165	5.9 151	8.5 217	0.24 6	5.1 2.3
	DLS81 DLS101	LK-10	2	11.7 297	9.6 244	6.5 165	8.0 204	8.5 217	0.24 6	5.1 2.3
	DLS151 DLS201	LK-12	2	15.5 393	9.6 244	8.1 207	11.8 300	8.5 217	0.24 6	7.7 3.5
	WS8	LK-5	2	7.1 180	7.1 180	5.1 129	6.3 161	6.3 161	0.20 5	2.1 0.95
8702	WS9 WS11	LK-6	2	7.1 180	7.1 180	6.2 158	6.3 161	6.3 161	0.20 5	2.2 0.98
	WS16 WS26	LK-7	2	7.1 180	9.8 250	6.7 171	7.1 180	10.6 270	0.26 6.5	3.3 1.5
	WS31 WS46 WS61	LK-10	2	11.7 297	9.6 244	6.5 165	8.0 204	8.5 217	0.24 6	5.1 2.3
	WS81 WS101	LK-11	2	15.5 393	9.6 244	6.5 165	11.8 300	8.5 217	0.24 6	6.8 3.1
	WS8	LK-5	2	7.1 180	7.1 180	5.1 129	6.3 161	6.3 161	0.20 5	2.1 0.95
	WS9 WS11	LK-6	2	7.1 180	7.1 180	6.2 158	6.3 161	6.3 161	0.20 5	2.2 0.98

MAGNETIC STARTER

For Use With		Enclosure Type No.	Fig.	Dimensions — Inches/MMs						Weight Lbs./Kgs.
Class	Type			A	B	C	D	E	F	
8536	DNMR8	LK-2	1	3.4 87	5.9 149	5.0 128	—	5.0 128	0.18 4.5	0.9 0.41
	DNTUP9 DNTUP11 DPTUP2.3 DLSTUP16 DLSTUP26	LK-4	1	4.3 110	8.7 222	5.0 128	—	7.9 201	0.18 4.5	1.8 0.82
	DLSTUP31 DLSTUP46 DLSTUP61	LK-10	2	11.7 297	9.6 244	6.5 165	8.0 204	8.5 217	0.24 6	5.1 2.3
	DLSM46 DLSM61 DLSM81 DLSM101	LK-11	2	15.5 393	9.6 244	6.5 165	11.8 300	8.5 217	0.24 6	6.8 3.1
	DLSM151 DLSTMW151 DLSTMW201	LK-14	2	9.6 244	19.3 490	8.1 207	8.5 217	15.6 397	0.24 6	9.2 4.2
	WSMR8	LK-5	1	7.1 180	7.1 180	5.1 129	6.3 161	6.3 161	0.20 5	2.1 0.95
8736	WSTUP9 WSTUP11	LK-6	1	7.1 180	7.1 180	6.2 158	6.3 161	6.3 161	0.20 5	2.2 0.98
	WSTUP16 WSTUP26	LK-7	2	7.1 180	9.8 250	6.7 171	7.1 180	10.6 270	0.26 6.5	3.3 1.5
	WSTUP31 WSTUP46 WSTUP61	LK-10	2	11.7 297	9.6 244	6.5 165	8.0 204	8.5 217	0.24 6	5.1 2.3
	WSM46 WSM61	LK-11	2	15.5 393	9.6 244	6.5 165	11.8 300	8.5 217	0.24 6	6.8 3.1
	WSM81 WSM101	LK-13	2	9.6 244	19.3 490	8.1 207	8.5 217	15.6 397	0.24 6	8.1 3.7
	WSMR8	LK-5	1	7.1 180	7.1 180	5.1 129	6.3 161	6.3 161	0.20 5	2.1 0.95



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