Mersen Canada Toronto Inc

Application Guide



VM-BOX

10 sizes from 5X3X3 to 7X7X6 inches

NEMA/CSA small multipurpose boxes for in- and outdoor applications:

- Electrical control devices push button stations, relays, switches, sensors, definite purpose contactors, IEC controls.
- Instrumentation thermostats, counters, meters, timers and pneumatic controls.
- Industrial controls Electro-mechanical, pneumatic, hydraulic, pump and valve controls
- Customized engineered solutions

Base is made of VALOX® crystalline thermoplastic polyester. Cover is injection moulded in either light grey or clear polycarbonate

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MultiBox



Small multipurpose boxes

Wide range of small to medium size multipurpose boxes for in- and outdoor applications.

- Automation and control applications in industry, machinery, toolshop and OEM.
- Electronic applications in data and telecom industry.
- As commercial and industrial power distribution boxes.

All boxes are made from polystyrene or glass-fibre reinforced polycarbonate, offering a high protection degree of IP66 with mechanical impact strength of IK07 for polystyrene and IK08 for polycarbonate.

MultiBox enclosures can be easily modified and/or customized (coloured, printed, with cut-outs...)

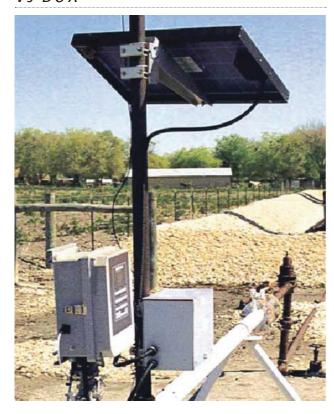
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V.J-BOX



Polyester NEMA sized boxes

Seven NEMA sized boxes according to the Joint

Industrial Council (JIC) for in- and outdoor applications.

- Automation and control applications in oil and steel industry, petrochemical plants, breweries.
- Applications in utilities such as public lighting, traffic control, signalisation.
- For installation in aggressive environments such as shipyards, offshore oil production platforms, mining sites.

All boxes are made of hot moulded, glass-fibre reinforced polyester, offering a high protection degree of IP67/IP66 with a mechanical impact strength of IK10.

VJ-Boxes can be readily worked with conventional tools such as drills, cutting mills, saws, punches, etc.

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Overview Insulated Boxes

VM	MultiBox IP66	VJ-BOX IP67/IP66	APO IP67			
VM53 119 x 69 x 77/102 mm 4.7 x 2.7 x 3.0/4.0 inches	MB11 65 x 65 x 57/81 mm. 2.6 x 2.6 x 2.2/3.2 inches	VJ606 186 x 186 x 126 mm. 7.3 x 7.3 x 5.0 inches	A1-706 185 x 150 x 130 mm. 7.3 x 5.9 x 5.1 inches			
VM55 119 x 119 x 77/102 mm 4.7 x 4.7 x 3.0/4.0 inches	MB21 94 x 65 x 57/81 mm. 3.7 x 2.6 x 2.2/3.2 inches	VJ806 236 x 186 x 126 mm. 9.3 x 7.3 x 5.0 inches	A31-1207 300 x 185 x 175 mm. 11.8 x 7.3 x 6.9 inches			
VM75 169 x 119 x 77/102/128 mm	MB22 94 x 94 x 57/81 mm 3.7x 3.7 x 2.2/3.2 inches	VJ1008 287 x 236 x 138/176 mm.	A41-1212 300 x 300 x 175 mm.			
6.7 x 4.7 x 3.0/4.0/5.0 inches	MB33 110 x 110 x 66/90 mm. 4.3 x 4.3 x 2.6/3.5 inches	11.3 x 9.3 x 5.4/6.9 inches	11.8 x 11.8 x 6.9 inches			
169 x 169 x 77/128/153 mm 6.7 x 6.7 x 3.0/5.0/6.0 inches	MB42	338 x 287 x 142/180 mm. 13.3 x 11.3 x 5.6/7.1 inches	370 x 300 x 175 mm. 14.6 x 11.8 x 6.9 inches			
	130 x 94 x 57/81 mm. 5.1 x 3.7 x 2.2/3.2 inches MB44 130 x 130 x 75/99 mm.	VJ1412 389 x 338 x 170/208 mm. 15.3 x 13.3 x 6.7/8.2 inches	A51-1912 485 x 300 x 175 mm. 19.1 x 11.8 x 6.9 inches			
	MB52 180 x 94 x 57/81 mm. 7.1 x 3.7 x 2.2/3.2 inches	VJ1614 440 x 389 x 170/208 mm. 17.3 x 15.3 x 6.7/8.2 inches	A81-2212 555 x 300 x 175 mm.			
	MB53 180 x 110 x 90/111/165 mm. 7.1 x 4.3 x 3.5/4.4/6.5 inches	VJ1816	21.9 x 11.8 x 6.9 inches A61-2412			
	MB65	491 x 440 x 243 mm. 19.3 x 17.3 x 9.6 inches	600 x 300 x 175 mm. 23.6 x 11.8 x 6.9 inches			
	182 x 180 x 90/111/165/215 mm		A11-2414 600 x 370 x 175 mm. 23.6 x 14.6 x 6.9 inches			
	254 x 180 x 90/111/165/215 mm. 10.0 x 7.1 x 3.5/4.4/6.5/8.5 inches		A12-2424			
	361 x 254 x 111/165/215 mm. 14.2 x 10.0 x 4.4/6.5/8.5 inches		600 x 600 x 175 mm. 23.6 x 23.6 x 6.9 inches			





Applications

- Industry
- Breweries
- Steel works
- Shipyards
- Oil refineries
- Public utilities
- Petrochemical plants

S tandards

IEC 60439-1 EN 60439-1 IEC 60529 EN 60529

EN 50298

A pprovals



UL types 3, 3R, 3S, 4, 4X, 6, 12 and 13



CSA types 3, 3R, 3S, 4, 4X, 6, 12 and 13



AS 3132-1991 (Australian Standards)

F eatures

- VJ-boxes are designes in accordance with the Joint Industrial Council (JIC) - USA.
- The VJ-range consists of seven box sizes in three versions:
- with screw cover
- with stainless steel hinges
- with plastic hinges
- The bases and covers are made of grey (RAL 7036), hot moulded, glass fibre reinforced polyester, dyed in mass. They come complete with 4 threaded inserts (Dodge) for fixing a mounting plate.
- Gaskets that guarantee an optimal tightness degree, are made of polyurethane foam.
- All fixing hardware is made of stainless steel.
- The box can be readily worked with conventional tools, such as drills, cutting mills, saws, punches, etc.
- Versatile service conditions: polyester enclosures can withstand continuous temperatures up to 70°C (158°F) (peak temperatures up to 150°C or 302°F)
- VJ-boxes provide optimum security to both operators and equipment because they
 feature total insulation and protection degree IP67/IP66 according to IEC 60529 (IP68
 on demand)
- Protection degree IK10 against external mechanical impacts according to EN 50102.
 This protection degree covers the total volume of the enclosure according to EN 50298.
- VJ polyester boxes are maintenance-free and corrosion resistant.
- Rated insulation voltage Ui = 1000V
- VJ-boxes are UL listed, as per UL Standard 508 and CSA approved as per C22.2 nr. 94 types 3, 3R, 3S, 4, 4X, 6, 12 and 13.

Special versions



With air vents With inset polycarbonate window (226 x 175 mm.)



VJ Series

Polyester NEMA	sized boxes					-
					• •	•
		Туре	VJ 606	VJ 806	VJ 1008	VJ 1210
	Box with polyester	H x W x D, inch	7.3 x 7.3 x 5.0	9.3 x 7.3 x 5.0	11.3 x 9.3 x 5.4	13.3 x 11.3 x 5.6
	cover	H x W x D, mm	186 x 186 x 126	236 x 186 x 126	287 x 236 x 138	338 x 287 x 142
	With fixing screws	Ref. No.	VJ606W	VJ806W	VJ1008W	VJ1210W
		Weight (kg)	1.280	1.500	2.100	2.820
	Box with hinged cover	H x W x D, inch	7.3 x 7.3 x 5.0	9.3 x 7.3 x 5.0	11.3 x 9.3 x 5.4	13.3 x 11.3 x 5.6
	□ IP67	H x W x D, mm	186 x 186 x 126	236 x 186 x 126	287 x 236 x 138	338 x 287 x 142
	With stainless steel hinges	Ref. No.	VJ606HW	VJ806HW	VJ1008HW	VJ1210HW
	and padlockable latch(es)	Ref. No.	VJ606HWPL	VJ806HWPL	VJ1008HWPL	VJ1210HWPL
	with twist padlockable quick release latch	Ref. No.	VJ606HWTPL	VJ806HWTPL	VJ1008HWTPL	VJ1210HWTPL
		Weight (kg)	1.280	1.500	2.100	2.820
	Box with hinged cover	H x W x D, inch	7.3 x 7.3 x 5.0	9.3 x 7.3 x 5.0	11.3 x 9.3 x 5.4	13.3 x 11.3 x 5.6
100	□ IP67	H x W x D, mm	186 x 186 x 126	236 x 186 x 126	287 x 236 x 138	338 x 287 x 142
	With plastic hinges	Ref. No.	VJ606NHW	VJ806NHW	VJ1008NHW	VJ1210NHW
	with padlockable latch(es)	Ref. No.	VJ606NHWPL	VJ806NHWPL	VJ1008NHWPL	VJ1210NHWPL
	with twist padlockable	Ref. No.	VJ606NHWTPL	VJ806NHWTPL	VJ1008NHWTPL	VJ1210NHWTPL
	quick release latch		1.359	1.579	2.179	2.899
		Weight (kg)	1.559	1.379	2.119	2.033
	Box with raised	H x W x D, inch			11.3 x 9.3 x 6.9	13.3 x 11.3 x 7.1
	polyester cover □ IP67 ⁽¹⁾	H x W x D, mm	-	-	287 x 236 x 176	338 x 287 x 180
	With fixing screws	Ref. No.	-	_	RVJ1008W	RVJ1210W
		Weight (kg)	-	-	2.220	2.940
	Box with hinged	H x W x D, inch			11.3 x 9.3 x 6.9	13.3 x 11.3 x 7.1
	raised cover	H x W x D, mm	-	-	287 x 236 x 176	338 x 287 x 180
	With stainless steel hinges	Ref. No.	_	_	RVJ1008HW	RVJ1210HW
	and padlockable latch(es)	Ref. No.	_	_	RVJ1008HWPL	RVJ1210HWPL
		Weight (kg)	-	-	2.220	2.940
	B. W.L.	11 34/ 72			11.3 x 93 x 6.9	13.3 x 11.3 x 7.1
	Box with hinged raised cover	H x W x D, inch	-	_	287 x 236 x 176	338 x 287 x 180
	With plastic hinges	Ref. No.	_	_	RVJ1008NHW	RVJ1210NHW
	with padlockable latch(es)	Ref. No.	_	_	RVJ1008NHWPL	RVJ1210NHWPL
4	with twist padlockable quick release latch	Ref. No.	-	_	RVJ1008NHWTPL	RVJ1210NHWTPL
	quion release idleri	Weight (kg)	-	-	2.299	3.019
			40.40	00.40	0.7.00	40.7.00
	Mounting plate	H x W, inch	4.9 x 4.9	6.8 x 4.9	8.7 x 6.9	10.7 x 8.9
		H x W, mm	124 x 124	172 x 124	222 x 175	273 x 226
	Aluminum Non-Metallic 3mm / 0.1in.	Ref. No. Ref. No.	MP606A	MP806A MP806N	MP1008A	MP1210A MP1210N
4441	Non-Metallic 6mm / 0.2in.	Ref. No.	MP606N MP606NT	MP806NT	MP1008N MP1008NT	MP1210NT
	Stool					
(1) IP68	on request.	Ref. No.	MP606S	MP806S	MP1008S	MP1210S

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VJ 1412 VJ 1614 VJ 1816 15.3 x 13.3 x 6.7 17.3 x 15.3 x 6.7 19.3 x 17.3 x 9.6 491 x 440 x 243 389 x 338 x 170 440 x 389 x 170 VJ1412W VJ1614W VJ1816W 3.860 4.720 6.240 15.3 x 13.3 x 6.7 17.3 x 15.3 x 6.7 19.3 x 17.3 x 9.6 389 x 338 x 170 440 x 389 x 170 491 x 440 x 243 VJ1412HW VJ1614HW VJ1816HW VJ1412HWPL VJ1614HWPL VJ1816HWPL VJ1412HWTPL VJ1614HWTPL VJ1816HWTPL 3.860 4.720 6.240 15.3 x 13.3 x 6.7 17.3 x 15.3 x 6.7 19.3 x 17.3 x 9.6 389 x 338 x 170 491 x 440 x 243 440 x 389 x 170 VJ1412NHW VJ1614NHW **VJ1816NHW** VJ1412NHWPL VJ1614NHWPL VJ1816NHWPL VJ1412NHWTPL VJ1614NHWPL VJ1816NHWPL 3.939 4.799 6.319 19.3 x 17.3 x 11.1 15.3 x 13.3 x 8.2 17.3 x 15.3 x 8.2 389 x 338 x 208 440 x 389 x 208 491 x 440 x 281 **RVJ1412W RVJ1614W RVJ1816W** 3.980 4.900 6.740 15.3 x 13.3 x 8.2 17.3 x 15.3 x 8.2 19.3 x 17.3 x 11.1 440 x 389 x 208 389 x 338 x 208 491 x 440 x 281 RVJ1412HW RVJ1614HW **RVJ1816HW** RVJ1412HWPL RVJ1614HWPL RVJ1816HWPL 3.980 6.740 4.900 15.3 x 13.3 x 8.2 17.3 x 15.3 x 8.2 19.3 x 17.3 x 11.1 389 x 338 x 208 440 x 389 x 208 491 x 440 x 281 RVJ1816NHW RVJ1412NHW RVJ1614NHW RVJ1412NHWPL RVJ1614NHWPL RVJ1816NHWPL **RVJ1816NHWTPL RVJ1412NHWTPL RVJ1614NHWTPL** 4.059 4.979 6.820 12.8x10.9 14.8x10.9 16.7 x 10.9 324 x 276 375 x 327 425 x 378 MP1412A MP1618A MP1614A MP1412N MP1614N MP1618N MP1412NT **MP1618NT MP1614NT** MP1618S MP1412S MP1614S

Accessories

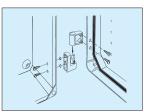
Hinges

The VJ-Box plastic hinges allow the cover to open at an angle exceeding 180°. The cover can be lifted off and reinstalled without the use of a tool, which substancially reduces the operations within the cover.

By simply adjusting one of the pivot parts, the cover becomes unremovable.

80200-010 1

Set of 2 pieces





Surface mounted windows

SW97

1

1

Screwed IP67 H x W = 262 x 211

SW64

Screwed IP67 with indication strip
H x W = 240 x 139 mm

SW84X

Screwed IP67 without indication strip H x W = 217 x 139 mm.







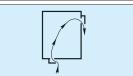
Air vents IP44

Two air vents must be mounted per enclosure to ensure sufficient air circulation and prevent condensation water. Complete with template and screws. The air vents are preferably mounted in the upper and lower part of the box.

10000-010 1

Set of two pieces in polyamide. RAL 7036





316 stainless steel latches

VJPLX 1

Padlockable latch

VJTPL 1

Twist padlockable quick release latch

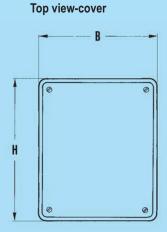


1) Windows are CSA when factory installed

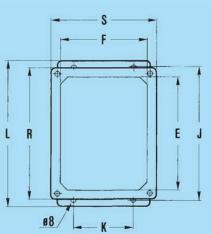


VJ Dimensional Drawings

VJ-Box



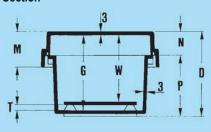
Top view-base



Section



Section



Dimensions, mm																
Туре	Н	В	D	Е	F	G	J	K	L	М	N	Р	R	s	Т	W
VJ606	186	186	126	152	152	118	172	102	191	35	16	110	172	172	10	105
VJ806	236	186	126	203	152	118	222	102	241	35	16	110	222	172	10	105
VJ1008	287	236	138	254	203	130	273	153	292	41	22	116	273	222	10	118
VJ108	287	236	176	254	203	168	273	153	292	80	61	116	273	222	10	156
VJ1210	338	287	142	305	254	133	324	203	343	41	22	120	324	273	10	121
VJ1210	338	287	180	305	254	172	324	203	343	80	61	120	324	273	10	160
VJ1412	389	338	170	356	305	162	375	254	394	44	25	145	375	324	13	146
VJ1412	389	338	208	356	305	200	375	254	394	83	64	145	375	324	13	184
VJ1614	440	389	170	406	356	162	425	305	445	44	25	145	425	375	13	146
VJ1614	440	389	208	406	356	200	425	305	445	83	64	145	425	375	13	184
VJ1816	491	440	243	457	406	235	476	305	495	44	25	218	476	425	13	219

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Specifications for Tender





- The range comprises 10 different basic box sizes, from 119 x 69 mm up to 169 x 169 mm, with up to 4 different cover depths and two designs:
- with opaque cover
- with clear cover
- They are suitable for applications that require light weight and durability.
- The base is manufactured from VALOX crystalline thermoplastic polyester.
- VALOX crystalline thermo-plastic polyester bases come with smooth side walls or with several Metric knock-outs.
- Cover is injection moulded in either light grey or clear polycarbonate
- The lid is fi xed to the base by means of cover screws in polyamide.
- VALOX crystalline thermo-plastic polyester boxes can withstand temperatures from -35°C up to 120°C
- The box offers maximum protection to the user and the equipment by means of total insulation and a protection degree as per IEC 60529 and also complies with the impactresistance standard as per EN 50102.

This protection covers the total volume of the enclosure according to EN 50298.

- Boxes are corrosion-resistant and do not require any maintenance.
- Materials are halogen-free polycarbonate and low-halogen polystyrene.
- Boxes are self-extinguishing according UL94-V2.
- Boxes offer high resistance to chemical and aggressive influences.
- The box is secured to the wall by screws directly through the base, direct through the four corner shafts of the base (under the cover screws) or by using external mounting brackets.
- Boxes may be fitted with external hinges and/or padlocking as a protection against unauthorised access.
- It is possible to mount DIN pro fi les as well as mounting plates.
- Boxes bear the CSA approval.
- Tailor-made boxes are available upon request: coloured, painted, overprinted, machine fi nished, EMC shielded.



Polyester NEMA sized boxes

- Boxes are designed in accordance with the "Joint Industrial Council" (JIC) USA.
- The range consists of seven different sizes ranging from 186 x 186 mm (6 x 6 inch) to 491 x 440 mm (18 x 16 inch) in three designs:
 - with screwed lid
 - with stainless steel hinges
 - with plastic hinges.
- The base and the lid are made of selfextinguishing, glass-fibrereinforced and halogenfree polyester, dyed in mass RAL 7036 (dark grey).
- The glass-fibre content is a minimum of 20%.
- The base also comes with four threaded inserts
- M4 for securing a mounting plate.
- Boxes can withstand an ambient temperature of 50° to +150°C.
- The box offers maximum protection to the user and equipment thanks to the total insulation ☐ and the IP67/IP66 protection degree as per IEC 60529. It also complies with impact resistance degree IK10 as per EN 50102.

This protection covers the total volume, protected space, of the box according to EN 50298.

- Boxes are corrosion-resistant and do not require any maintenance.
- The base is fitted with moulded-in mounting brackets suitable for external mounting.
- Boxes have the UL certification mark, as per UL standard 508 types 3, 3R, 3S, 4, 4X, 6, 12 and 13.
 They also comply with CSA certification mark as per C22.2 no. 94 types 3, 3R, 3S, 4, 4X, 6, 12 and 13.
- Boxes also bear the following certification mark: AS Australian Standards 3132-1991.