

Control Enclosures

N

Stahlin's Control Enclosures are designed to accommodate electrical, electronic, instrumentation and mechanical controls indoors and outdoors where corrosion resistant watertight enclosures are needed to provide protection against windblown dust and rain, splashing and hose directed water. The "N" designation reflects a NEMA range series of large capacity enclosures.

With the ample working space involved, this wall mount configuration, or alternate free standing control tower enclosure style will also accommodate combination hydraulic or pneumatic controls along with the supporting electrical control. Fiberglass reinforced polyester supports a very high temperature range when used in oil field, mining, oil platform and general processing controls. Yet, the pleasing cosmetic construction is ideally suited for ordinary indoor or outdoor industrial control mounting.

Control Enclosures Attributes

- Available in 2 cover options:
 1. Opaque cover
 2. Flush bonded window
- Fiberglass reinforced polyester material
- Memory retaining polyurethane gasket
- 300 series stainless steel hardware
- Integral mounting feet
- Molded in panel mounting inserts or studs
- High temperature, flame-retardant, non corrosive, environmental designs
- Wall mount or free standing configurations

Control Enclosures Industry Standards

UL/cUL 50	File E64358 Type 1, 3, 3R, 4X, 12 as designated
NEMA 250	Type 1, 3, 3R, 4X, 12 as designated
CSA Std C22.2	File LR069014 Type 1, 3, 3R, 4X, 12 as designated
UL1741	File E333478 WT, HWT, FHLWT
Temperature Range	(-76°F to +274°F) (-60°C to +134°C)
Temperature Range Window	(-26°F to +170°F) (-32°C to +76°C)
Flammability Rating	UL94-5V
Window flammability	UL94-HB
Self extinguishing	Non-halogenated, non-flame propagating
Chemical Resistance	Full chemical resistance charts listed in appendix
NFPA No. 101 Flame Spread	Class A (1)



HWT

Technical Specifications - Control Enclosures Type 4X

N

"HWT" configuration - Stainless steel hinged, latched down cover



HWT Construction

Material	Hot compression molded fiberglass reinforced polyester, hand layup FRP
Gasket	Poured polyurethane seamless gasket provides watertight, dust-tight environmental seal
Stainless Steel Hardware	300 Series stainless used on all hardware
Mounting Bosses	Panel mounting capability for fixed rear panel
Metal inserts	All bosses utilize threaded brass inserts accepting 10-32 screws
Soft Edge Design	Rounded edges, minimal protrusions or exposed pocket areas for assembly of dust and debris

HWT Industry Standards

UL/cUL 50	File E64358 Type 1, 3, 3R, 4X, 12
NEMA 250	Type 1, 3, 3R, 4X, 12
CSA Std C22.2	File LR069014 Type 1, 3, 3R, 4X, 12
Temperature Range	(-76°F to +274°F) (-60°C to +134°C)
Flammability Rating	UL94-5V
Self Extinguishing	Non-halogenated, non-flame propagating
Chemical Resistance	Full chemical resistance charts listed in appendix
NFPA No. 101 Flame Spread	Class A (1)

NOTES:

HWT Accessories

Back Panels

Aluminum	BP__AL	pg. 149, 151
Fiberglass	BP__FG	pg. 149, 151
Stainless Steel	BP__SS	pg. 149, 151
Carbon Steel	BP__CS	pg. 149, 151

Accessories

Drain & Breather Vents	pg. 144, 146
Hole Plugs	pg. 145
Assorted Hubs and Cord Grips	pg. 145, 148
All Other Accessories	pg. 144 - 159

HWT Modifications

Custom Colors	pg. 12 - 13
Silk Screening	pg. 12 - 13
EMI/RFI Shielding	pg. 12 - 13
Custom Window	pg. 12 - 13
Custom Cutouts/Holes	pg. 12 - 13

Technical Specifications - Control Enclosures

"FHLWT" configuration - Fiberglass hinged, latched down cover



FHLWT Construction

Material	Hot compression molded fiberglass reinforced polyester, hand layup FRP
Gasket	Poured polyurethane seamless gasket provides watertight, dust-tight environmental seal
Non-Metallic Hardware	Glass filled PBT hinge, nylon quarter turn latches
Mounting Bosses	Panel mounting capability for fixed rear panel
Metal Inserts	All bosses utilize threaded brass inserts accepting 10-32 screws
Soft Edge Design	Rounded edges, minimal protrusions or exposed pocket areas for assembly of dust and debris
Hinge Material	Glass filled Polybutylene Terephthalate (PBT)

FHLWT Industry Standards

UL/cUL 50	File E64358 Type 1, 3, 3R, 4X, 12
NEMA 250	Type 1, 3, 3R, 4X, 12
CSA Std C22.2	File LR069014 Type 1, 3, 3R, 4X, 12
Temperature Range	(-76°F to +274°F) (-60°C to +134°C)
Flammability Rating	UL94-5V
Self Extinguishing	Non-halogenated, non-flame propagating
Chemical Resistance	Full chemical resistance charts listed in appendix
NFPA No. 101 Flame Spread	Class A (1)

NOTES:

FHLWT Accessories

Back Panels

Aluminum	BP__AL	pg. 149, 151
Fiberglass	BP__FG	pg. 149, 151
Stainless Steel	BP__SS	pg. 149, 151
Carbon Steel	BP__CS	pg. 149, 151

Accessories

Drain & Breather Vents	pg. 144, 146
Hole Plugs	pg. 145
Assorted Hubs and Cord Grips	pg. 145, 148
All Other Accessories	pg. 144 - 159

FHLWT Modifications

Custom Colors	pg. 12 - 13
Silk Screening	pg. 12 - 13
EMI/RFI Shielding	pg. 12 - 13
Custom Window	pg. 12 - 13
Custom Cutouts/Holes	pg. 12 - 13

WT

Technical Specifications - Control Enclosures Type 4X

N

"WT" configuration - Latched down cover, lift off cover



WT Construction

Material	Hot compression molded fiberglass reinforced polyester, hand layup FRP
Gasket	Poured polyurethane seamless gasket provides watertight, dust-tight environmental seal
Stainless Steel Hardware	300 Series stainless used on all hardware
Mounting Bosses	Panel mounting capability for fixed rear panel
Metal Inserts	All bosses utilize threaded brass inserts accepting 10-32 screws
Soft Edge Design	Rounded edges, minimal protrusions or exposed pocket areas for assembly of dust and debris

WT Industry Standards

UL/cUL 50	File E64358 Type 1, 3, 3R, 4X, 12
NEMA 250	Type 1, 3, 3R, 4X, 12
CSA Std C22.2	File LR069014 Type 1, 3, 3R, 4X, 12
Temperature Range	(-76°F to +274°F) (-60°C to +134°C)
Flammability Rating	UL94-5V
Self Extinguishing	Non-halogenated, non-flame propagating
Chemical Resistance	Full chemical resistance charts listed in appendix
NFPA No. 101 Flame Spread	Class A (1)

NOTES:

WT Accessories

Back Panels

Aluminum	BP__AL	pg. 149, 151
Fiberglass	BP__FG	pg. 149, 151
Stainless Steel	BP__SS	pg. 149, 151
Carbon Steel	BP__CS	pg. 149, 151

Accessories

Drain & Breather Vents	pg. 144, 146
Hole Plugs	pg. 145
Assorted Hubs and Cord Grips	pg. 145, 148
All Other Accessories	pg. 144 - 159

WT Modifications

Custom Colors	pg. 12 - 13
Silk Screening	pg. 12 - 13
EMI/RFI Shielding	pg. 12 - 13
Custom Window	pg. 12 - 13
Custom Cutouts/Holes	pg. 12 - 13

RT

Technical Specifications - Control Enclosures Type 3R

N

"RT" configuration - Hinged, latch down cover



RT Construction

Material	Hot compression molded fiberglass reinforced polyester, hand layup FRP
Rain Shield	Protection against incidental water ingress
Gasket	Poured polyurethane seamless gasket provides watertight, dust-tight environmental seal
Stainless Steel Hardware	300 Series stainless used on all hardware
Mounting Bosses	Panel mounting capability for fixed rear panel
Metal inserts	All bosses utilize threaded brass inserts
Soft Edge Design	Rounded edges, minimal protrusions or exposed pocket areas for assembly of dust and debris

RT Industry Standards

UL/cUL 50	File E64358 Type 1, 3R
NEMA 250	Type 1, 3R
CSA Std C22.2	File LR069014 Type 1, 3R
Temperature Range	(-76°F to +274°F) (-60°C to +134°C)
Temperature Range Window	(-26°F to +170°F) (-32°C to +76°C)
Flammability Rating	UL94-5V
Self Extinguishing	Non-halogenated, non-flame propagating
Chemical Resistance	Full chemical resistance charts listed in appendix
NFPA No. 101 Flame Spread	Class A (1)

RT Accessories

Back Panels

Aluminum	BP__AL	pg. 149, 151
Fiberglass	BP__FG	pg. 149, 151
Stainless Steel	BP__SS	pg. 149, 151
Carbon Steel	BP__CS	pg. 149, 151

Accessories

Drain & Breather Vents	pg. 144, 146
Hole Plugs	pg. 145
Assorted Hubs and Cord Grips	pg. 145, 148
All Other Accessories	pg. 144 - 159

RT Modifications

Custom Colors	pg. 12 - 13
Silk Screening	pg. 12 - 13
EMI/RFI Shielding	pg. 12 - 13
Custom Window	pg. 12 - 13
Custom Cutouts/Holes	pg. 12 - 13

NOTES:

Technical Specifications - Control Enclosures Type 3R

"FHLRT" configuration - Fiberglass hinged, through the door latches



FHLRT Construction

Material	Hot compression molded fiberglass reinforced polyester, hand layup FRP
Rain Shield	Protection against incidental water ingress
Gasket	Poured polyurethane seamless gasket provides watertight, dust-tight environmental seal
Non-Metallic Hardware	Glass filled PBT hinge, nylon quarter turn latch
Mounting Bosses	Panel mounting capability for fixed rear panel
Metal inserts	All bosses utilize threaded brass inserts
Soft Edge Design	Rounded edges, minimal protrusions or exposed pocket areas for assembly of dust and debris
Hinge Material	Glass filled Polybutylene Terephthalate (PBT)

FHLRT Industry Standards

UL/cUL 50	File E64358 Type 1, 3R
NEMA 250	Type 1, 3R
CSA Std C22.2	File LR069014 Type 1, 3R
Temperature Range	(-76°F to +274°F) (-60°C to +134°C)
Temperature Range Window	(-26°F to +170°F) (-32°C to +76°C)
Flammability Rating	UL94-5V
Self Extinguishing	Non-halogenated, non-flame propagating
Chemical Resistance	Full chemical resistance charts listed in appendix
NFPA No. 101 Flame Spread	Class A (1)

FHLRT Accessories

Back Panels

Aluminum	BP_AL	pg. 149, 151
Fiberglass	BP_FG	pg. 149, 151
Stainless Steel	BP_SS	pg. 149, 151
Carbon Steel	BP_CS	pg. 149, 151

Accessories

Drain & Breather Vents	pg. 144, 146
Hole Plugs	pg. 145
Assorted Hubs and Cord Grips	pg. 145, 148
All Other Accessories	pg. 144 - 159

FHLRT Modifications

Custom Colors	pg. 12 - 13
Silk Screening	pg. 12 - 13
EMI/RFI Shielding	pg. 12 - 13
Custom Window	pg. 12 - 13
Custom Cutouts/Holes	pg. 12 - 13

NOTES:

Technical Specifications - Control Enclosures Type 12

N

"Type 12" configuration - Stainless steel hinged, latch down cover



Construction

Material	Hot compression molded fiberglass reinforced polyester, hand layup FRP
Gasket	Poured polyurethane seamless gasket provides watertight, dust-tight environmental seal
Stainless Steel Hardware	300 Series stainless used on all hardware
Mounting Bosses	Panel mounting capability for fixed rear panel
Metal inserts	All bosses utilize threaded brass inserts
Soft Edge Design	Rounded edges, minimal protrusions or exposed pocket areas for assembly of dust and debris

Industry Standards

UL/cUL 50	File E64358 Type 1, 12
NEMA 250	Type 1, 12
CSA Std C22.2	File LR069014 Type 1, 12
Temperature Range	(-76°F to +274°F) (-60°C to +134°C)
Flammability Rating	UL94-5V
Self Extinguishing	Non-halogenated, non-flame propagating
Chemical Resistance	Full chemical resistance charts listed in appendix
NFPA No. 101 Flame Spread	Class A (1)

NOTES:

Accessories

Back Panels

Aluminum	BP_AL	pg. 149, 151
Fiberglass	BP_FG	pg. 149, 151
Stainless Steel	BP_SS	pg. 149, 151
Carbon Steel	BP_CS	pg. 149, 151

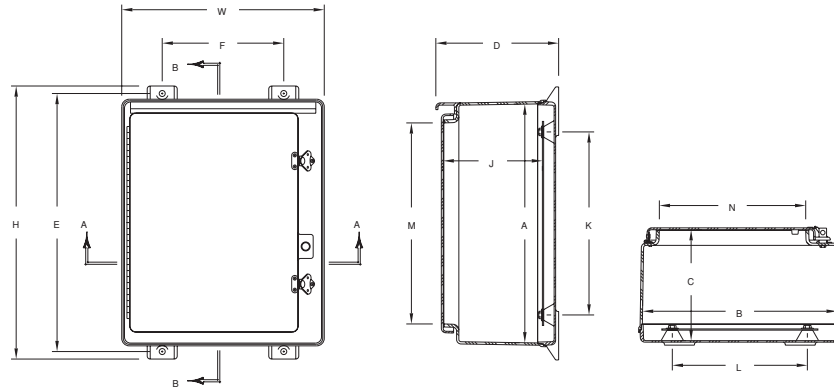
Accessories

Drain & Breather Vents	pg. 144, 146
Hole Plugs	pg. 145
Assorted Hubs and Cord Grips	pg. 145, 148
All Other Accessories	pg. 144 - 159

Modifications

Custom Colors	pg. 12 - 13
Silk Screening	pg. 12 - 13
EMI/RFI Shielding	pg. 12 - 13
Custom Window	pg. 12 - 13
Custom Cutouts/Holes	pg. 12 - 13

Control Enclosures Configuration Technical Charts & Drawings



Wall Mount Enclosures Dimensions

SIZE ID NUMBER	OVERALL H X W X D	INSIDE A X B X C	MOUNTING E X F	J	K	L	ENCLOSURE OPENING M X N	NO. OF LATCHES	SHIPPING WEIGHT	PANEL NUMBER
N16107HWT N16107FHLWT	18.75 x 10.96 x 9.03 (476 x 278 x 229)	15.92 x 10.27 x 8.53 (404 x 261 x 217)	17.50 x 7.00 (444 x 178)	7.8 (198)	12 (305)	7.5 (191)	13.14 x 6.00 (334 x 152)	2	10.7 lbs.	BP1610**
N20166HWT N20166FHLWT	22.75 x 16.87 x 7.77 (578 x 429 x 197)	19.70 x 16.04 x 7.24 (500 x 407 x 184)	21.50 x 10.12 (546 x 257)	6.26 (159)	15.25 (387)	11.25 (286)	16.75 x 12.19 (425 x 310)	2	17.6 lbs.	BP2016**
N20168HWT N20168FHLWT N20168RT N20168FHLRT	22.75 x 16.87 x 10.27 (578 x 429 x 261)	19.70 x 16.04 x 9.24 (500 x 407 x 235)	21.50 x 10.12 (546 x 257)	8.26 (210)	15.25 (387)	11.25 (286)	16.75 x 12.19 (425 x 310)	2	19.7 lbs.	BP2016**
N201610HWT N201610RT	22.75 x 16.87 x 12.27 (578 x 429 x 312)	19.70 x 16.04 x 11.24 (500 x 407 x 286)	21.50 x 10.12 (546 x 257)	10.26 (261)	15.25 (387)	11.25 (286)	16.75 x 12.19 (425 x 310)	2	23 lbs.	BP2016**
N201612HWT N201612RT	22.75 x 16.87 x 14.27 (578 x 429 x 362)	19.70 x 16.04 x 13.24 (500 x 407 x 336)	21.50 x 10.12 (546 x 257)	12.26 (312)	15.25 (387)	11.25 (286)	16.75 x 12.19 (425 x 310)	2	23.5 lbs.	BP2016**
N201616HWT	22.75 x 16.87 x 17.52 (578 x 429 x 445)	19.70 x 16.04 x 16.99 (500 x 407 x 432)	21.50 x 10.12 (546 x 257)	16.01 (407)	15.25 (387)	11.25 (286)	16.75 x 12.19 (425 x 310)	2	25 lbs.	BP2016**
N20208 HWT* N20208*	23.50 x 20.50 x 9.69 (597 x 521 x 246)	20.25 x 20.25 x 8.88 (514 x 514 x 225)	22.25 x 14.50 (565 x 368)	7.88 (200)	15.25 (387)	15.25 (387)	17.00 x 16.00 (432 x 406)	2	26 lbs.	BP2020**
N24126HWT	26.95 x 13.72 x 7.98 (685 x 348 x 203)	24.00 x 12.87 x 7.33 (610 x 327 x 186)	25.75 x 6.25 (654 x 159)	6.33 (161)	19.25 (489)	7.25 (184)	21.00 x 8.37 (533 x 213)	2	26 lbs.	BP2412**
N24126WT	26.95 x 13.72 x 7.98 (685 x 348 x 203)	24.00 x 12.87 x 7.33 (610 x 327 x 186)	25.75 x 6.25 (654 x 159)	6.33 (161)	19.25 (489)	7.25 (184)	21.00 x 8.37 (533 x 213)	4	26 lbs.	BP2412**
N241210HWT N241210FHLWT N241210RT	26.95 x 13.72 x 12.49 (685 x 348 x 317)	24.00 x 12.87 x 11.33 (610 x 327 x 288)	25.75 x 6.25 (654 x 159)	10.33 (262)	19.25 (489)	7.25 (184)	21.00 x 8.37 (533 x 213)	2	25 lbs.	BP2412**
N24208HWT N24208FHLWT N24208WT N24208RT N24208FHLRT N24208	27.00 x 21.24 x 9.90 (686 x 539 x 252)	24.05 x 20.39 x 9.25 (611 x 518 x 235)	25.75 x 14.00 (654 x 356)	8.25 (209)	19.25 (489)	15.25 (387)	21.25 x 16.00 (540 x 406)	2 2 6 4 4 2	32 lbs.	BP2420**
N242010HWT* N242010* N242010*	27.00 x 21.24 x 11.90 (686 x 539 x 302)	24.05 x 20.39 x 11.25 (611 x 518 x 286)	25.75 x 14.00 (654 x 356)	8.25 (209)	19.25 (489)	15.25 (387)	21.25 x 16.00 (540 x 406)	2 4 2	37 lbs.	BP2420**
N242410HWT N242410FHLWT N242410WT N242410RT N242410FHLRT N242410	27.00 x 25.24 x 11.90 (686 x 641 x 302)	24.05 x 24.39 x 11.25 (611 x 619 x 286)	25.75 x 17.87 (654 x 454)	10.25 (260)	19.25 (489)	19.25 (489)	21.25 x 20.00 (540 x 508)	2 2 6 4 4 2	38.5 lbs.	BP2424**
N242412HWT* N242412WT* N242412RT N242412FHLRT* N242412	27.00 x 25.24 x 13.90 (686 x 641 x 353)	24.05 x 24.39 x 13.25 (611 x 619 x 336)	25.75 x 17.87 (654 x 454)	12.25 (311)	19.25 (489)	19.25 (489)	21.25 x 20.00 (540 x 508)	2 2 6 4 2	42.1 lbs.	BP2424**
N30206HWT N30206FHLWT N30206RT N30206FHLRT N30206	32.86 x 20.99 x 7.89 (835 x 533 x 200)	29.90 x 20.14 x 7.23 (760 x 511 x 184)	30.75 x 14.25 (806 x 362)	6.23 (158)	25.25 (641)	15.25 (387)	27.00 x 16.50 (686 x 419)	2 2 5 5 2	34 lbs.	BP3020**
N30208HWT N30208FHLWT N30208WT N30208RT N30208FHLRT N30208	32.86 x 20.99 x 9.89 (835 x 533 x 251)	29.90 x 20.14 x 9.23 (760 x 511 x 234)	31.75 x 14.25 (806 x 362)	8.23 (209)	25.25 (641)	15.25 (387)	27.00 x 16.50 (686 x 419)	2 2 8 5 5 2	37 lbs.	BP3020**