



YASKAWA

Type 3R Package



HP Range
5 - 150 HP @ 208/240 VAC
5 - 500 HP @ 480 VAC

Overview

The Type 3R Package is specifically designed for Yaskawa Variable Frequency Drives.

The Type 3R outdoor duty package is not just a "NEMA 3R" self-declared rating. Yaskawa went beyond its own stringent testing by asking Underwriters Laboratories Inc. (UL) to test and certify this package to meet UL 508A Type 3R for outdoor use to provide a degree of protection against falling rain; undamaged by the formation of ice on the enclosure.

The Type 3R Package is designed for applications such as Cooling Towers, Rooftop AHUs or Exhaust Fans, Irrigation Pumps and Water/Wastewater Pumps.

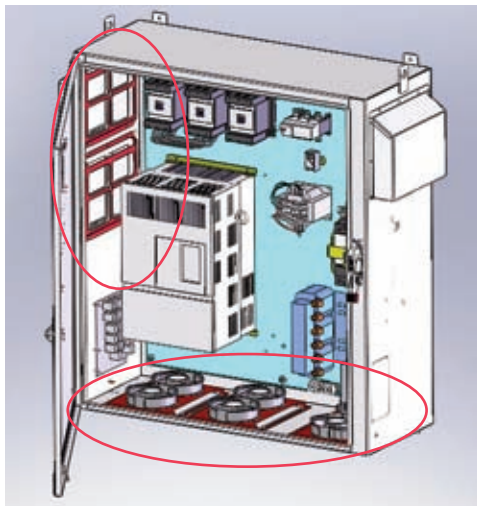
Designed to operate in ambient temperatures up to 104°F (40°C) without air conditioning with space for several commonly used options, makes this the preferred outdoor duty package for variable frequency drives. A standard option is available for ambient temperatures up to 122°F (50°C) without air conditioning.

Standard Features include:

- 12 Gauge Steel Construction
- Integral ¼ Turn Door Latches
- Padlock Hasp
- UV / Type 3R Keypad Membrane
- Sun Reflective White Powder Coat Paint
- Whole Door Gasket
- Stainless Steel Hardware

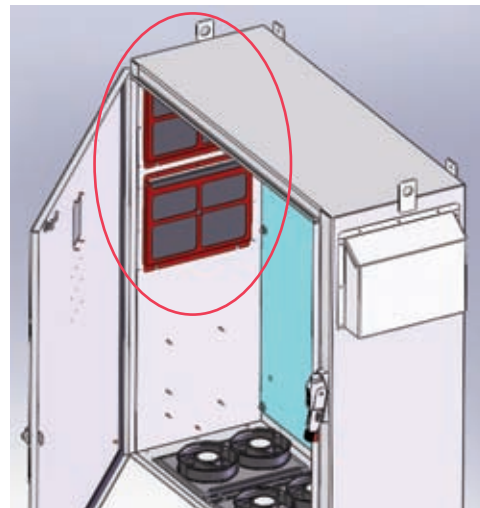
There are many standard features of the Yaskawa Type 3R Package, such as:

- The circled areas use the same filter media. This decreases the number of filter media part numbers which lowers cost of ownership. The filter media is easy to replace which lowers the overall maintenance cost of this outdoor duty package.

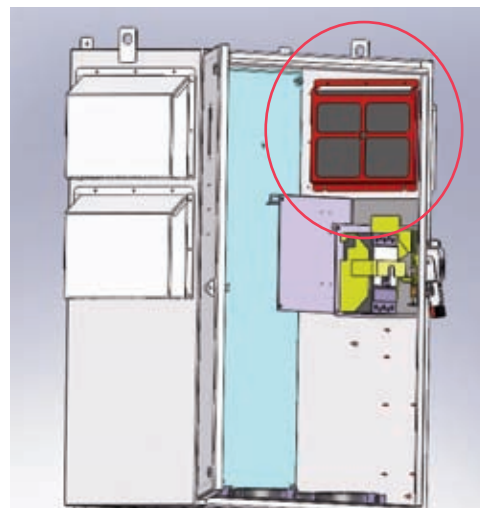


Inside View

- Dual ground lug - one lug for earth ground, one lug for utility ground.
- Standard practice in the Yaskawa Type 3R Package is to provide filter media at exhaust ports. The filter media brackets include integral filter supports as shown in circled area below.



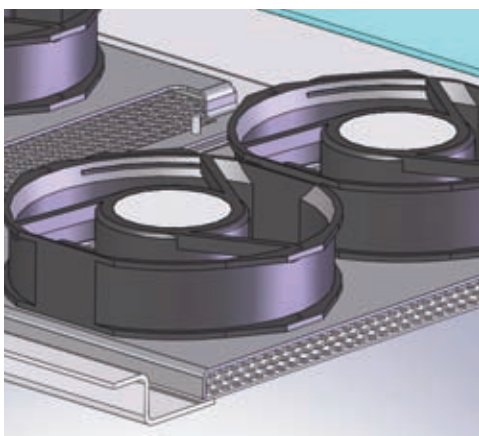
Inside Left View



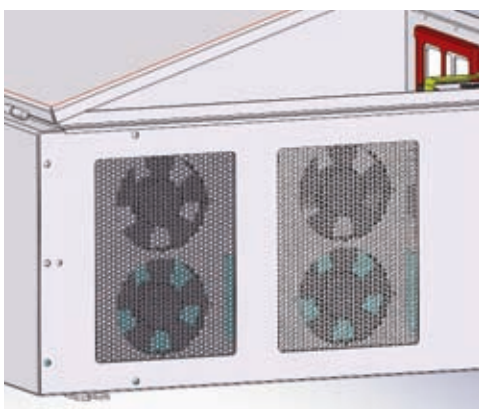
Inside Right View

Construction

- Protecting the cabinet cooling fans in an outdoor duty enclosure is top priority. A screen is provided to go between the fan bracket and the enclosure bottom to prevent small items from damaging the filter media or blocking fan operation.

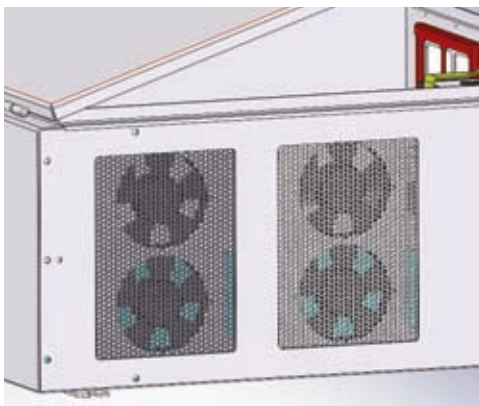


Inside Bottom View



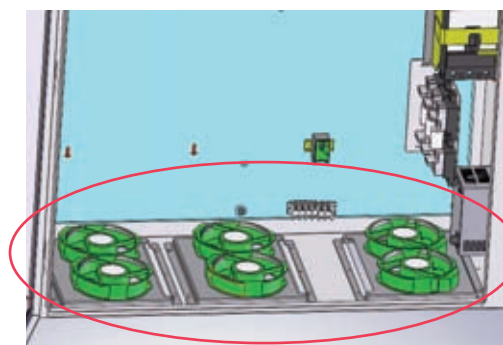
Outside Bottom View

- Filter media can be inserted into the fan bracket to protect the Type 3R Package from dusty environments.



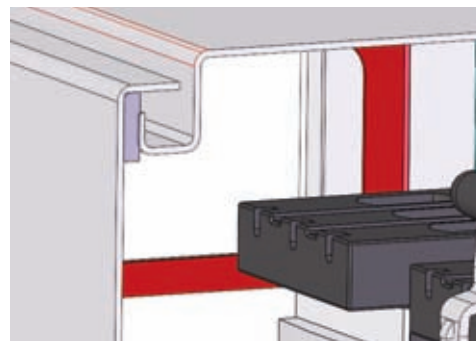
Outside Bottom View

- The Type 3R Package is designed to operate in a 14°F (-10°C) to 104°F (40°C) ambient temperature range. A standard option is available for 14°F (-10°C) to 122°F (50°C) ambient temperature range. This Type 3R Package is designed to operate at either temperature range without air conditioning due to the thermostatically controlled cabinet cooling fans shown circled below. Derating the variable frequency drive is not required.



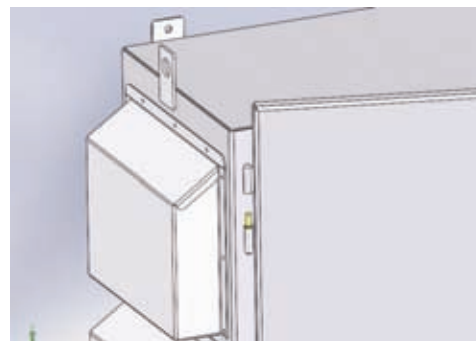
Inside Bottom View

- Enclosure flange channels water away from the door gasket to prevent gasket saturation and possible water ingress to internal electrical components.



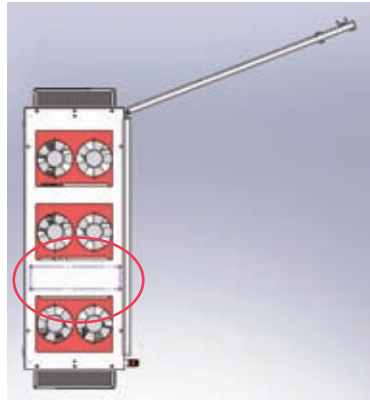
Enclosure Flange Cut-a-Way

- Lift-off door hinges with brass pins provide improved security and weather protection as well as easier access than a traditional piano hinge.



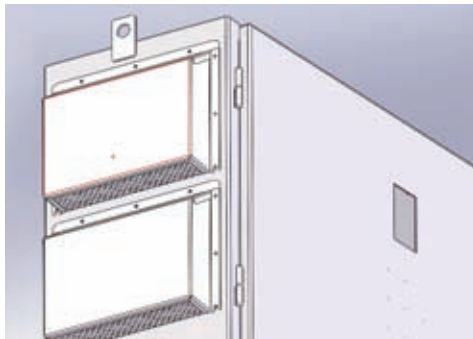
Outside Upper Left Corner

- Bottom conduit entry is available without pre-determined knockouts, to provide an added degree of protection from the weather elements for input power wiring, motor wiring, and control circuits. This configuration provides flexible installation options for the electrician. Circled area is the recommended conduit entrance area.



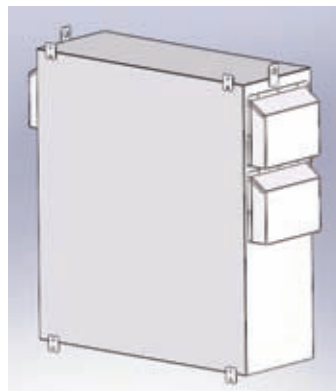
Outside Bottom View

- Rain hoods with screens prevent falling rain and small items from entering the exhaust.



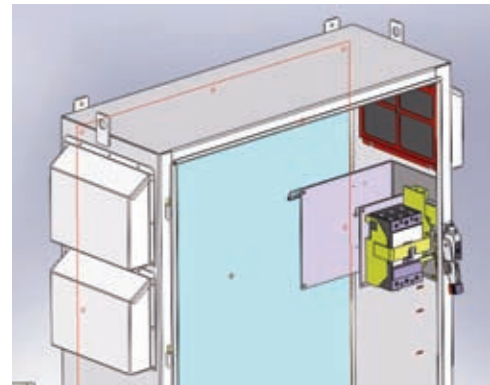
Outside Left View

- Because of its flush back, the Type 3R Package can be mounted to many vertical surfaces, including, but not limited to, concrete or a brick wall, cooling tower frame, or field-constructed bracket.

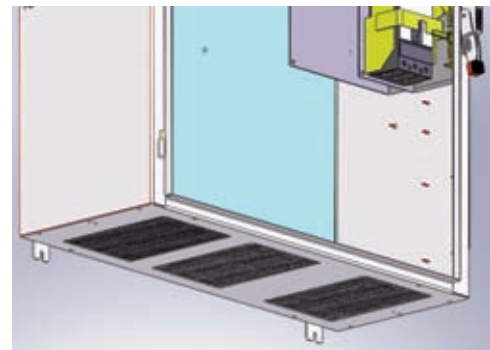


Rear View

- A standard part of the Type 3R Package are the integral lifting tabs provided on the side of enclosure to facilitate the physical installation without blocking access to the mounting holes. The bottom mounting holes are slotted to "rest" the Type 3R Package on the bottom two bolts until the top two bolts can be aligned.



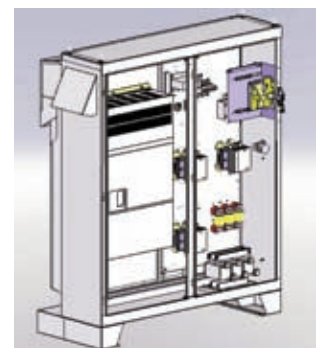
Integral Lifting Tabs and Top Mounting Holes



Bottom Mounting Holes

The freestanding Type 3R package includes the following standard items:

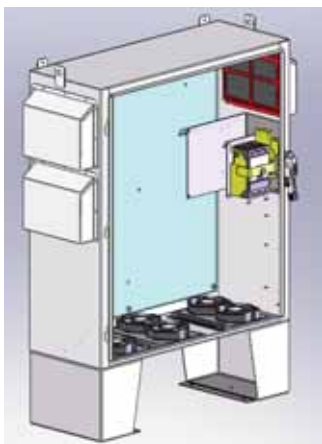
- Lifting eyes
- Mounting feet
- Intake fans and filters
- Exhaust filters
- Heatsink rain hood
- Conduit entrance areas



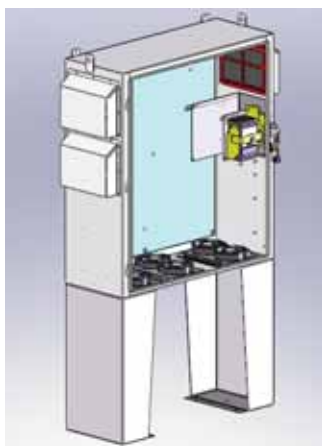
Floor Mount Enclosure

Options

When vertical surfaces are limited, optional leg kits are available for the Type 3R Package to become a freestanding installation. An optional 12" Leg Kit or 30" Leg Kit is available as shown below.



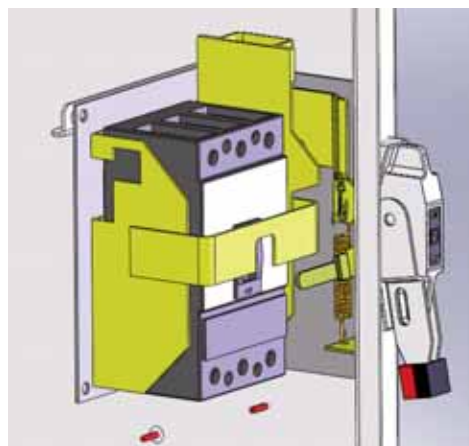
12" Leg Kit



30" Leg Kit

The following are Type 3R package options:

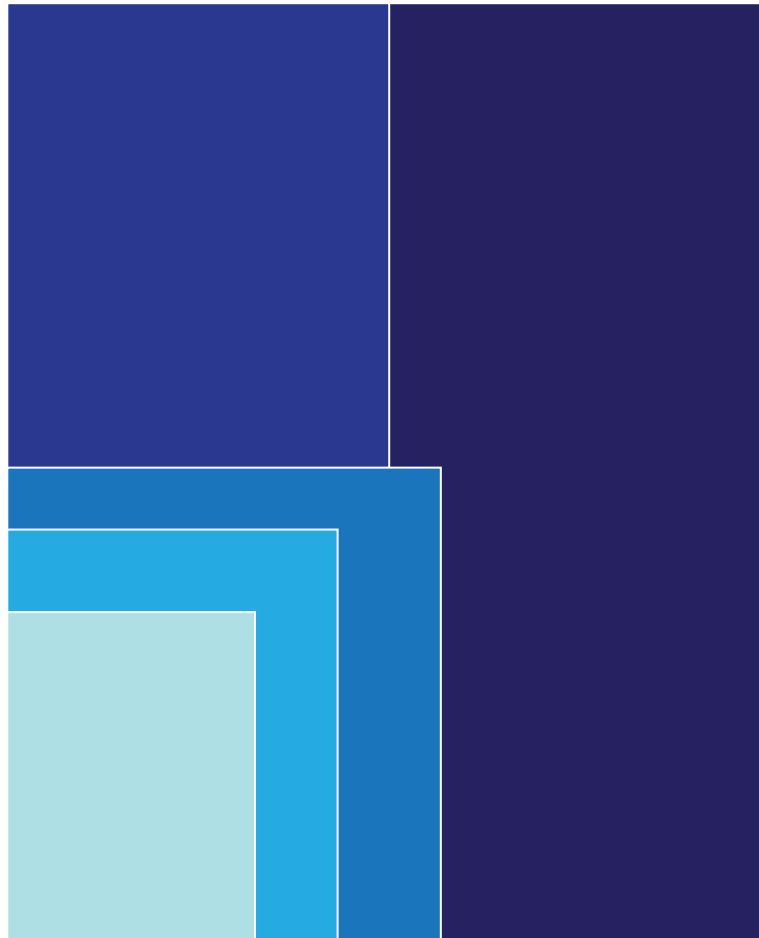
- Service Entrance Rated Disconnect.
- Space Heater with Thermostat - maintains the internal cabinet temperature to reduce condensation.
- NEC branch circuit protection device for input power with flange-mounted operating handle.
- Surge Suppressor - adds a degree of protection to the Type 3R Package from transient surges coming through the power line cables. Lightning strikes are the most common source of surges.
- Custom Engraved Nameplates - white lettering on black background is available.
- Drive Keypad Viewing Window - the drive keypad viewing window is mounted on the outside of the Type 3R Package door. This option provides a viewing window which is hinged and lockable.
- Factory mounted configured power/control options, such as: circuit breaker, fuses, line/load reactors, RFI filter, 3-contactor bypass, and network communications.



Service Entrance Rated Disconnect

Dimensions

Configured and Bypass Dimensions



Mechanical Drawings (Downloadable from website)

-  DD.AFD.198.01
-  DD.AFD.199.01
-  DD.AFD.200.01
-  DD.AFD.189.01
-  DD.AFD.190.01

208/240 VAC

-  HP: 5, 7.5, 10; 32"H x 24"W x 17.5"D
-  HP: 15, 20; 40"H x 32"W x 17.5"D
-  HP: 25, 30, 40; 46"H x 42"W x 17.5"D
-  HP: 50, 60, 75, 100; 91"H x 37"W x 36"D
-  HP: 125, 150; 91"H x 74"W x 36"D

480 VAC

-  HP: 5, 7.5, 10, 15, 20; 32"H x 24"W x 17.5"D
-  HP: 25, 30, 40, 50; 40"H x 32"W x 17.5"D
-  HP: 60, 75, 100; 46"H x 42"W x 17.5"D
-  HP: 125, 150, 200, 250; 91"H x 37"W x 36"D
-  HP: 300, 350, 400, 450*, 500*; 91"H x 74"W x 36"D

**For bypass configurations, consult factory for mechanical drawing.*



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