NSL Technology Resources (s) Pte Ltd
No 280 Woodlands Industrial Park E5,
#09-11 Harvest @ Woodlands,
Singapore 757322
Tel : +65 67957477, 7747 Fax : +65 63162368
Email : sales@nsltechnology.com

DYNACOOL HEAT EXCHANGER

# special application air cooled oil coolers



Air cooled oil heat exchangers for use where the standard aluminium element type oil coolers are not acceptable for the following reasons.

- Circuits where higher pressures are expected to be encountered.
- Where the atmosphere or the process fluids are not compatible with aluminium.
- Where explosive environments prevent the use of aluminium. Eg :- Coal Mines.
- Where lower internal film coefficient is required for use with higher viscosity oils.
- Where heavy dust laden environments exist. These units have anticlogging type fins

## SERIES 'S' MODEL CODES

**series** ST — **st 75 r H 8 _ ac 6 00 #**

**Basic moDel nUmBer =** 40, 50, 75 & 110 etc.

**coolinG element tYPe**
**r** = Steel fin, copper tubes, steel tanks - Operating pressure 20 Bar

**Port orientation**
**H** = Horizontal. V = Vertical

**Fan Diameter (mm)**
**4** = Ø450
**5** = Ø500
**6** = Ø630
**8** = Ø800
**9** = Ø900

**Basic DriVe tYPe**
**ac** = 3 Phase electric motor
**aD** = 1 Phase electric motor
**HF** = Hydraulic orbit motor with end ports
**HQ** = Hydraulic orbit motor with side ports (Optional)
**HV** = Hydraulic vane motor
**Hx** = No motor (hydraulic motor mounting provided. Customer to specify motor details)
**nm** = No motor (electric motor mounting provided)
**Ga** = Air motor

**motor sPeeD**
**4** = 4 Pole Nom. 1450rpm at 50 Hz
**6** = 6 Pole Nom. 950rpm at 50 Hz
**8** = 8 Pole Nom. 750rpm at 50 Hz

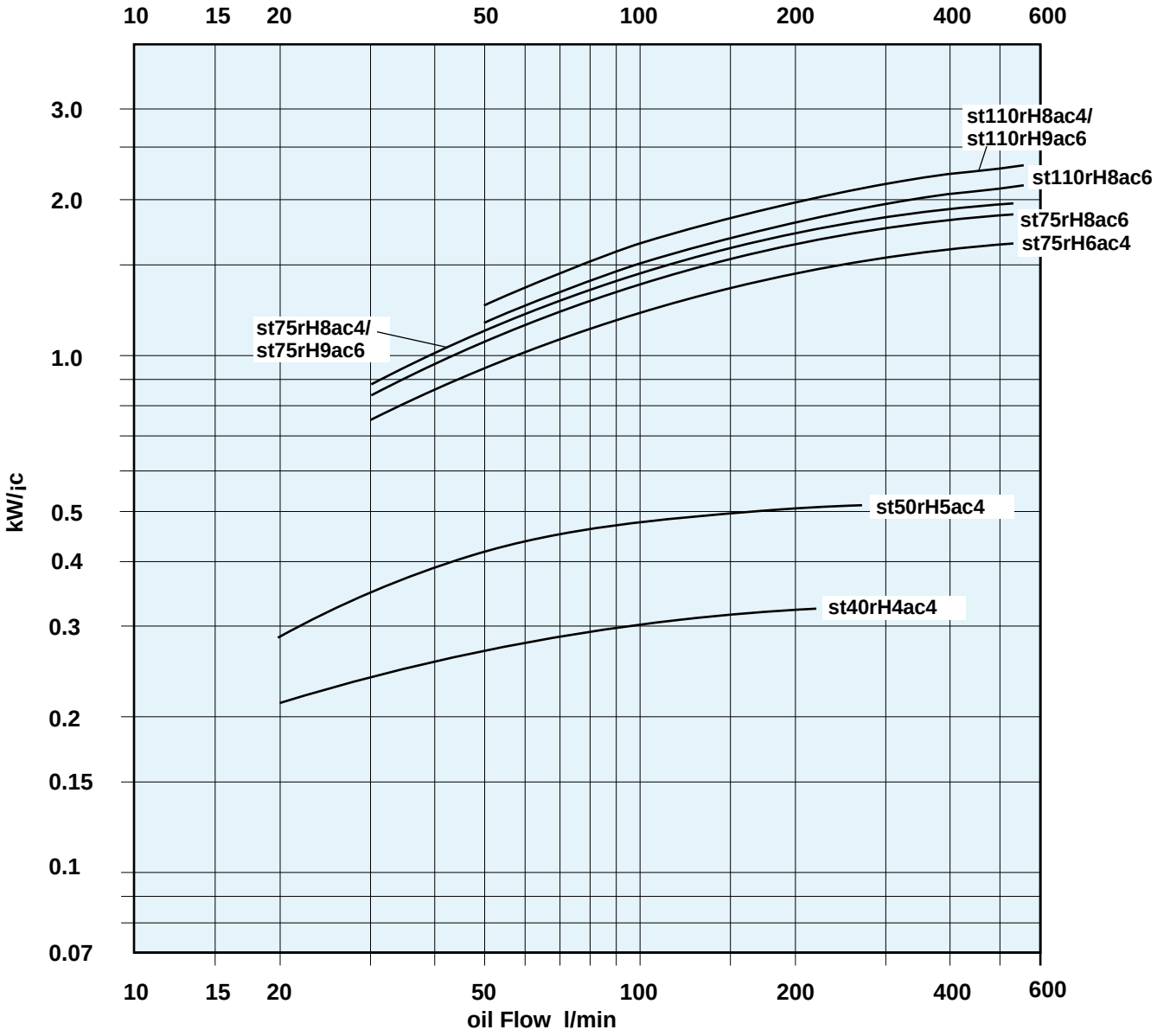
**sPecial Details or FinisH**
**00 or none** = 415V 50Hz
**01** = 240V 50Hz
**0a** = with antistatic fan with silumin retainers (Not suitable for underground coal mine use)
**0c** = with antistatic fan with steel or zinc retainers (Suitable for underground coal mine use)
**0r =** with relief valve.

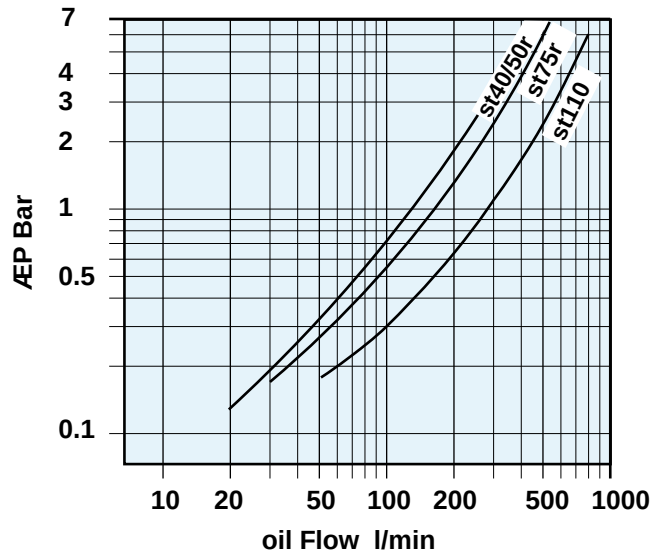
**# not all combinations are available or possible**

## TECHNICAL SPECIFICATIONS - STEEL CORE AC ELECTRIC MODELS

| moDel/ Part number | noise level * dB(a) at 1m | Fan Ø (mm) | Volts | Phase | kW | size | Poles | Weight (kg) |
|---|---|---|---|---|---|---|---|---|
| ST40RH4AC400# | 84 | 450 | 415 | 3 | 0.55 | 80 | 4 | 44 |
| ST50RH5AC400# | 86 | 500 | 415 | 3 | 0.75 | 80 | 4 | 60 |
| ST75RH6AC400 | 89 | 630 | 415 | 3 | 1.5 | 90L | 4 | 140 |
| ST75RH8AC400 | 96 | 800 | 415 | 3 | 2.2 | 100L | 4 | 149 |
| ST75RH8AC600 | 88 | 800 | 415 | 3 | 2.2 | 112M | 6 | 150 |
| ST75RH9AC600† | 88 | 900 | 415 | 3 | 2.2 | 112M | 6 | 150 |
| ST110RH8AC400 | 96 | 800 | 415 | 3 | 3 | 100L | 4 | 275 |
| ST110RH8AC40R | 96 | 800 | 415 | 3 | 3 | 100L | 4 | 275 |
| ST110RH9AC600† | 92 | 900 | 415 | 3 | 2.2 | 112M | 6 | 275 |

* Noise levels listed are raw A weighted pressure representing worst case. Refer noise level statement page 63.
# Also available with 240 volt single phase electric motor.
† Models with Ø900 fan available with optional antistatic blades and aluminium retainers only.




**oil cooler siZinG**

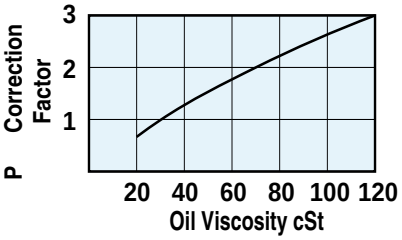
**step 1.** Calculate ETD = $T_{Oil}$ - $T_{Air}$
$T_{Oil}$= Temp °C of oil entering the cooler (usually the same as max. allowable oil temp.) $T_{Air}$= Expected Ambient Air Temp°C.

**step 2.** Calculate kW/°C ETD = $\frac{kW}{ETD}$ kW = Heat Load.

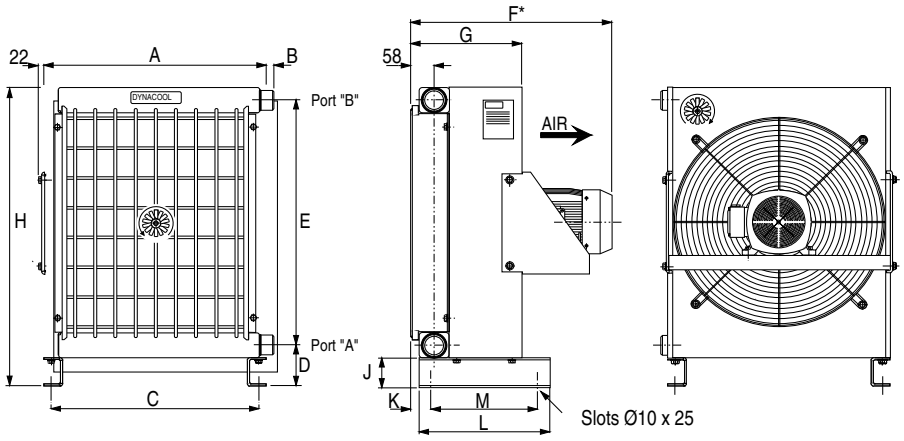
**step 3.** Enter Cooler Performance Tables and select a cooler which meets or exceeds the required performance at the required oil flow rate.

**step 4.** Check pressure drop of the oil cooler selected in step 3. If the average oil viscosity is not 30 cSt apply a correction for the expected viscosity.

Computer model selection program available.



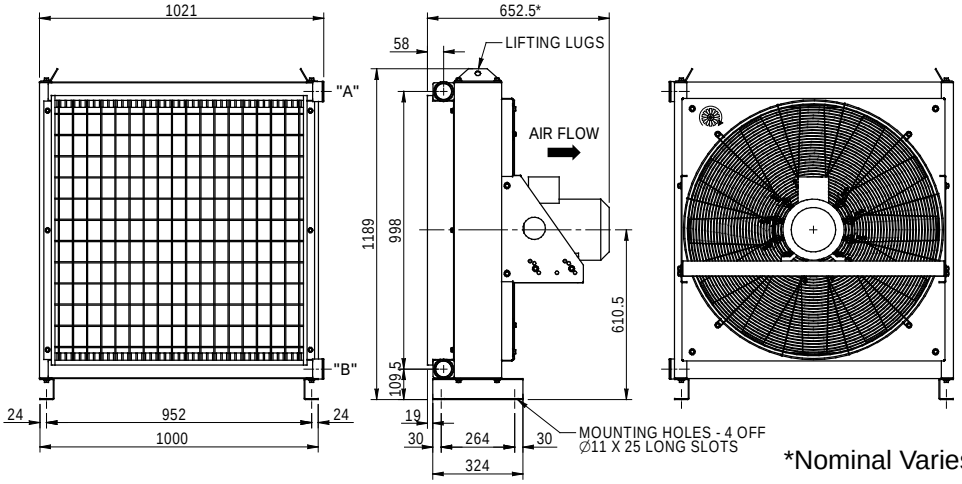
## moDel st40 & st50




| model | a | B | c | D | e | F* | G | H | J | K | l | m | Port a | Port B | Port c | Port D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **st40r** | 480 | - | 432 | 107 | 475 | 518 | 276 | 615 | 75 | 50 | 324 | 264 | 1 1/4” | 1 1/4” | - | - |
| **st50r** | 545 | 21 | 496 | 107 | 615 | 505 | 276 | 755 | 75 | 50 | 324 | 264 | 1 1/4” | 1 1/4” | - | - |

*Nominal Varies with motor type. Ports BSPP to ISO 228/1G

## moDel st75

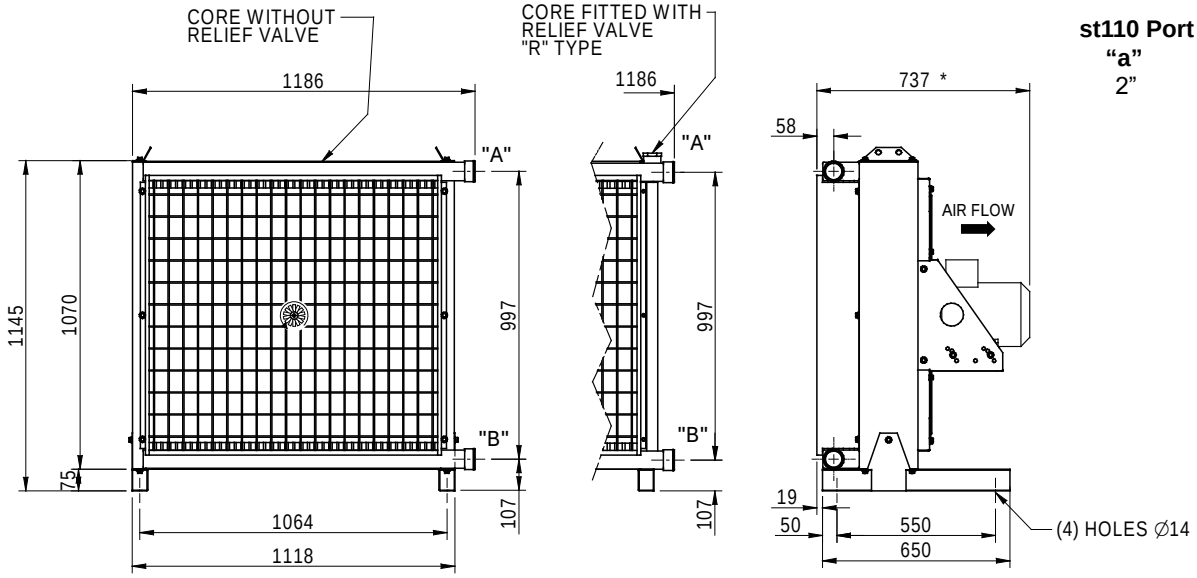



**st75 Port size**

| “a” | “B” |
|---|---|
| 2” | 2” |

*Nominal Varies with motor type.

## moDel st110




**st110 Port size**

| “a” | “B” |
|---|---|
| 2” | 2” |

All ports BSPP to ISO 228/1G *Nominal, Varies with motor brand.

All dimensions in mm unless noted otherwise 0-50 are ± 1. 50-1500 are ± 3.