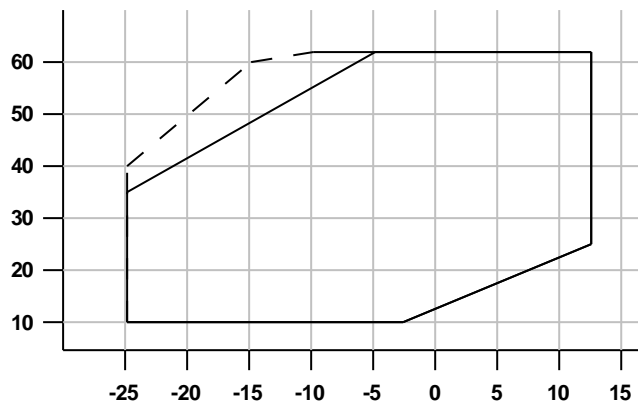


50Hz

D3SA-75X

R22



Minimum evaporating temp. with:  
 ——— 25°C Suction Gas Return  
 - - - 20K Suction Superheat

Suction Return Temperature 20.0°C

Evaporating Temperature °C

Liquid subcooling 0.0K

| Cond °C | Capacity kW     |       |       |        |        |        |        |        |        |        |
|---------|-----------------|-------|-------|--------|--------|--------|--------|--------|--------|--------|
|         | -25             | -20   | -15   | -10    | -5     | 0      | 5      | 7      | 10     | 12.5   |
| 10      | 11.30           | 14.40 | 18.10 | 22.50  | 27.70  |        |        |        |        |        |
| 20      | 9.85            | 12.65 | 16.05 | 20.10  | 24.80  | 30.30  | 36.70  | 39.50  |        |        |
| 30      | 8.50            | 11.05 | 14.10 | 17.70  | 22.00  | 27.00  | 32.80  | 35.40  | 39.50  | 43.20  |
| 40      |                 | 9.50  | 12.20 | 15.45  | 19.30  | 23.80  | 29.00  | 31.30  | 35.10  | 38.40  |
| 45      |                 |       | 11.30 | 14.35  | 17.95  | 22.20  | 27.10  | 29.30  | 32.90  | 36.00  |
| 50      |                 |       |       | 13.30  | 16.70  | 20.70  | 25.30  | 27.40  | 30.70  | 33.70  |
| 55      |                 |       |       | 12.30  | 15.45  | 19.15  | 23.50  | 25.50  | 28.60  | 31.40  |
| 60      |                 |       |       |        | 14.25  | 17.70  | 21.80  | 23.60  | 26.50  | 29.10  |
| 62      |                 |       |       |        | 13.80  | 17.15  | 21.10  | 22.80  | 25.70  | 28.20  |
|         | Power Input kW  |       |       |        |        |        |        |        |        |        |
|         | -25             | -20   | -15   | -10    | -5     | 0      | 5      | 7      | 10     | 12.5   |
| 10      | 3.74            | 3.90  | 3.95  | 3.90   | 3.72   |        |        |        |        |        |
| 20      | 4.11            | 4.40  | 4.62  | 4.76   | 4.79   | 4.69   | 4.46   | 4.32   |        |        |
| 30      | 4.37            | 4.79  | 5.17  | 5.49   | 5.73   | 5.86   | 5.88   | 5.86   | 5.77   | 5.66   |
| 40      |                 | 5.10  | 5.64  | 6.13   | 6.57   | 6.93   | 7.20   | 7.28   | 7.36   | 7.40   |
| 45      |                 |       | 5.84  | 6.42   | 6.96   | 7.44   | 7.83   | 7.96   | 8.13   | 8.23   |
| 50      |                 |       |       | 6.70   | 7.34   | 7.92   | 8.44   | 8.62   | 8.87   | 9.05   |
| 55      |                 |       |       | 6.96   | 7.70   | 8.39   | 9.03   | 9.27   | 9.60   | 9.84   |
| 60      |                 |       |       |        | 8.05   | 8.85   | 9.61   | 9.90   | 10.30  | 10.65  |
| 62      |                 |       |       |        | 8.18   | 9.03   | 9.84   | 10.15  | 10.60  | 10.95  |
|         | Current 400V, A |       |       |        |        |        |        |        |        |        |
|         | -25             | -20   | -15   | -10    | -5     | 0      | 5      | 7      | 10     | 12.5   |
| 10      | 9.11            | 9.08  | 8.95  | 8.72   | 8.39   |        |        |        |        |        |
| 20      | 9.52            | 9.80  | 9.96  | 10.03  | 10.00  | 9.86   | 9.62   | 9.50   |        |        |
| 30      | 9.76            | 10.33 | 10.79 | 11.16  | 11.42  | 11.58  | 11.64  | 11.63  | 11.60  | 11.54  |
| 40      |                 | 10.68 | 11.44 | 12.10  | 12.66  | 13.11  | 13.47  | 13.58  | 13.72  | 13.81  |
| 45      |                 |       | 11.69 | 12.50  | 13.21  | 13.81  | 14.32  | 14.49  | 14.72  | 14.88  |
| 50      |                 |       |       | 12.86  | 13.71  | 14.47  | 15.12  | 15.35  | 15.67  | 15.91  |
| 55      |                 |       |       | 13.17  | 14.17  | 15.07  | 15.87  | 16.17  | 16.57  | 16.88  |
| 60      |                 |       |       |        | 14.59  | 15.64  | 16.58  | 16.94  | 17.43  | 17.82  |
| 62      |                 |       |       |        | 14.74  | 15.85  | 16.86  | 17.23  | 17.76  | 18.18  |
|         | Mass Flow g/s   |       |       |        |        |        |        |        |        |        |
|         | -25             | -20   | -15   | -10    | -5     | 0      | 5      | 7      | 10     | 12.5   |
| 10      | 53.00           | 67.80 | 85.50 | 107.00 | 132.50 |        |        |        |        |        |
| 20      | 49.00           | 63.30 | 80.50 | 101.00 | 126.00 | 155.00 | 189.00 | 204.00 |        |        |
| 30      | 45.10           | 58.80 | 75.50 | 95.50  | 119.00 | 147.00 | 180.00 | 195.00 | 219.00 | 241.00 |
| 40      |                 | 54.40 | 70.20 | 89.50  | 112.00 | 139.50 | 172.00 | 186.00 | 210.00 | 231.00 |
| 45      |                 |       | 67.70 | 86.50  | 109.00 | 135.50 | 167.00 | 182.00 | 205.00 | 226.00 |
| 50      |                 |       |       | 83.50  | 105.50 | 131.50 | 163.00 | 177.00 | 200.00 | 221.00 |
| 55      |                 |       |       | 80.50  | 102.00 | 128.00 | 158.00 | 172.00 | 195.00 | 216.00 |
| 60      |                 |       |       |        | 99.00  | 124.00 | 154.00 | 168.00 | 190.00 | 211.00 |
| 62      |                 |       |       |        | 97.50  | 122.50 | 153.00 | 166.00 | 188.00 | 209.00 |

50Hz

D3SA-75X

R22

**DWM Copeland - Compressor - Refrigeration - Standard****COMPRESSOR MECHANICAL AND PHYSICAL DATA**

|                              |                  |
|------------------------------|------------------|
| Number of cylinders          | 3                |
| Displacement @ 50 Hz, cu.m/h | 32.2             |
| Bore/Stroke, mm              | 55.6/50.8        |
| Length/Width, mm             | 655/370          |
| Height, mm                   | 480              |
| Net Weight, kg               | 159              |
| Gross Weight, kg             | 174              |
| Suction, inch                | 1 3/8            |
| Discharge, inch              | 1 1/8            |
| Oil Quantity, l              | 3.7              |
| Frequency Range, Hz          | 25 - 60          |
| Base mounting (hole dia), mm | 381 x 305 (18.0) |
| High Side PS, bar(g)         | 28               |
| Low Side PS, bar(g)          | 22.5             |

**COMPRESSOR ELECTRICAL DATA (380/420V - 3~ - 50Hz)**

|                              |                |
|------------------------------|----------------|
| Maximum Operating Current, A | 17.9           |
| Locked Rotor Current, A      | 82             |
| Default Enclosure Class      | IP 54 (IEC 34) |

**ACCESSORIES INCLUDED**

|                     |             |
|---------------------|-------------|
| Oil Pressure Switch | OPS2 Sensor |
| Mounting Springs    | 4           |

**ACCESSORIES OPTIONAL**

|                     |                              |
|---------------------|------------------------------|
| Additional Cooling  | 70W Vertical Air Flow Fan    |
| Crankcase Heater    | 70W Internal                 |
| Enclosure Class     | IP 56                        |
| Oil Pressure Switch | OPS2 Electronic Switch       |
| Unloaded start      | Available                    |
| Deep Oil Sump       | Mounted                      |
| Adapter Kit         | For Parallel Operation       |
| Check Valve (NRV)   | For unloaded start operation |

**MOTOR OPTIONS**

| <b>Power Supply</b> | <b>Nominal Voltage</b> | <b>Motor Code</b> | <b>Start Connection</b> | <b>DOL Connection</b> | <b>Amps Factor</b> |
|---------------------|------------------------|-------------------|-------------------------|-----------------------|--------------------|
| 380-420 V/3~/50H    | 400                    | AWM               | YY/Y                    | Y                     | 1.00               |
| 220-240 V/3~/50H    | 230                    | EWL               | Y/DELTA                 | DELTA                 | 1.73               |
| 380-420 V/3~/50H    | 400                    | EWL               |                         | Y                     | 1.00               |
| 380-420 V/3~/50H    | 400                    | EWM               | Y/DELTA                 | DELTA                 | 1.00               |
| 220-240 V/3~/50H    | 230                    | AWR               | YY/Y                    | Y                     | 1.73               |
| 500-550 V/3~/50H    | 525                    | AWY               | YY/Y                    | Y                     | 0.76               |
| 500-550 V/3~/50H    | 525                    | TWY               |                         | DELTA                 | 0.76               |
| 220-240 V/3~/60H    | 230                    | EWK               | Y/DELTA                 | DELTA                 | 2.09               |
| 380-420 V/3~/60H    | 380                    | EWK               |                         | Y                     | 1.26               |
| 440-480 V/3~/60H    | 460                    | EWD               | Y/DELTA                 | DELTA                 | 1.00               |
| 380 V/3~/60Hz       | 380                    | AWX               | YY/Y                    | Y                     | 1.26               |
| 440-480 V/3~/60H    | 460                    | AWD               | YY/Y                    | Y                     | 1.00               |

Model: D3SA-75X  
 Suction Return Temperature 20.0°C

Refrigerant: R22  
 Liquid subcooling 0.0K

S.I.  
 50Hz

|      | Evaporating Temperature °C |       |       |       |       |       |       |       |       |       |
|------|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|      | -25.0                      | -20.0 | -15.0 | -10.0 | -5.0  | 0.0   | 5.0   | 7.0   | 10.0  | 12.5  |
|      | Capacity kW                |       |       |       |       |       |       |       |       |       |
| 10.0 | 11.30                      | 14.40 | 18.10 | 22.50 | 27.70 |       |       |       |       |       |
| 15.0 | 10.55                      | 13.50 | 17.10 | 21.30 | 26.30 | 32.00 |       |       |       |       |
| 20.0 | 9.85                       | 12.65 | 16.05 | 20.10 | 24.80 | 30.30 | 36.70 | 39.50 |       |       |
| 25.0 | 9.16                       | 11.85 | 15.05 | 18.90 | 23.40 | 28.70 | 34.80 | 37.50 | 41.80 | 45.70 |
| 30.0 | 8.50                       | 11.05 | 14.10 | 17.70 | 22.00 | 27.00 | 32.80 | 35.40 | 39.50 | 43.20 |
| 35.0 | 7.86                       | 10.25 | 13.15 | 16.55 | 20.60 | 25.40 | 30.90 | 33.30 | 37.30 | 40.80 |
| 40.0 |                            | 9.50  | 12.20 | 15.45 | 19.30 | 23.80 | 29.00 | 31.30 | 35.10 | 38.40 |
| 45.0 |                            |       | 11.30 | 14.35 | 17.95 | 22.20 | 27.10 | 29.30 | 32.90 | 36.00 |
| 50.0 |                            |       |       | 13.30 | 16.70 | 20.70 | 25.30 | 27.40 | 30.70 | 33.70 |
| 55.0 |                            |       |       | 12.30 | 15.45 | 19.15 | 23.50 | 25.50 | 28.60 | 31.40 |
| 60.0 |                            |       |       |       | 14.25 | 17.70 | 21.80 | 23.60 | 26.50 | 29.10 |
| 62.0 |                            |       |       |       | 13.80 | 17.15 | 21.10 | 22.80 | 25.70 | 28.20 |

|      | Power Input kW |       |       |       |      |      |      |       |       |       |
|------|----------------|-------|-------|-------|------|------|------|-------|-------|-------|
|      | -25.0          | -20.0 | -15.0 | -10.0 | -5.0 | 0.0  | 5.0  | 7.0   | 10.0  | 12.5  |
| 10.0 | 3.74           | 3.90  | 3.95  | 3.90  | 3.72 |      |      |       |       |       |
| 15.0 | 3.94           | 4.16  | 4.30  | 4.35  | 4.27 | 4.06 |      |       |       |       |
| 20.0 | 4.11           | 4.40  | 4.62  | 4.76  | 4.79 | 4.69 | 4.46 | 4.32  |       |       |
| 25.0 | 4.25           | 4.61  | 4.91  | 5.14  | 5.27 | 5.29 | 5.19 | 5.10  | 4.93  | 4.75  |
| 30.0 | 4.37           | 4.79  | 5.17  | 5.49  | 5.73 | 5.86 | 5.88 | 5.86  | 5.77  | 5.66  |
| 35.0 | 4.46           | 4.96  | 5.42  | 5.82  | 6.16 | 6.41 | 6.56 | 6.58  | 6.58  | 6.54  |
| 40.0 |                | 5.10  | 5.64  | 6.13  | 6.57 | 6.93 | 7.20 | 7.28  | 7.36  | 7.40  |
| 45.0 |                |       | 5.84  | 6.42  | 6.96 | 7.44 | 7.83 | 7.96  | 8.13  | 8.23  |
| 50.0 |                |       |       | 6.70  | 7.34 | 7.92 | 8.44 | 8.62  | 8.87  | 9.05  |
| 55.0 |                |       |       | 6.96  | 7.70 | 8.39 | 9.03 | 9.27  | 9.60  | 9.84  |
| 60.0 |                |       |       |       | 8.05 | 8.85 | 9.61 | 9.90  | 10.30 | 10.65 |
| 62.0 |                |       |       |       | 8.18 | 9.03 | 9.84 | 10.15 | 10.60 | 10.95 |

|      | COP   |       |       |       |      |      |      |      |      |      |
|------|-------|-------|-------|-------|------|------|------|------|------|------|
|      | -25.0 | -20.0 | -15.0 | -10.0 | -5.0 | 0.0  | 5.0  | 7.0  | 10.0 | 12.5 |
| 10.0 | 3.02  | 3.70  | 4.58  | 5.77  | 7.45 |      |      |      |      |      |
| 15.0 | 2.68  | 3.25  | 3.97  | 4.90  | 6.15 | 7.89 |      |      |      |      |
| 20.0 | 2.40  | 2.88  | 3.47  | 4.22  | 5.19 | 6.47 | 8.24 | 9.15 |      |      |
| 25.0 | 2.16  | 2.57  | 3.07  | 3.68  | 4.44 | 5.42 | 6.70 | 7.34 | 8.47 | 9.62 |
| 30.0 | 1.95  | 2.30  | 2.72  | 3.23  | 3.84 | 4.61 | 5.58 | 6.04 | 6.85 | 7.64 |
| 35.0 | 1.76  | 2.07  | 2.42  | 2.84  | 3.35 | 3.96 | 4.71 | 5.07 | 5.67 | 6.24 |
| 40.0 |       | 1.86  | 2.17  | 2.52  | 2.93 | 3.43 | 4.03 | 4.30 | 4.76 | 5.19 |
| 45.0 |       |       | 1.94  | 2.24  | 2.58 | 2.99 | 3.47 | 3.68 | 4.04 | 4.38 |
| 50.0 |       |       |       | 1.99  | 2.27 | 2.61 | 3.00 | 3.17 | 3.46 | 3.73 |
| 55.0 |       |       |       | 1.77  | 2.01 | 2.28 | 2.60 | 2.75 | 2.98 | 3.19 |
| 60.0 |       |       |       |       | 1.77 | 2.00 | 2.26 | 2.38 | 2.57 | 2.74 |
| 62.0 |       |       |       |       | 1.68 | 1.90 | 2.14 | 2.25 | 2.42 | 2.58 |

Model: D3SA-75X

Refrigerant: R22

|      | -25.0         | -20.0 | -15.0 | -10.0  | -5.0   | 0.0    | 5.0    | 7.0    | 10.0   | 12.5   |
|------|---------------|-------|-------|--------|--------|--------|--------|--------|--------|--------|
|      | Mass Flow g/s |       |       |        |        |        |        |        |        |        |
| 10.0 | 53.00         | 67.80 | 85.50 | 107.00 | 132.50 |        |        |        |        |        |
| 15.0 | 51.00         | 65.60 | 83.00 | 104.00 | 129.00 | 159.00 |        |        |        |        |
| 20.0 | 49.00         | 63.30 | 80.50 | 101.00 | 126.00 | 155.00 | 189.00 | 204.00 |        |        |
| 25.0 | 47.10         | 61.00 | 78.00 | 98.50  | 122.50 | 151.00 | 185.00 | 200.00 | 224.00 | 246.00 |
| 30.0 | 45.10         | 58.80 | 75.50 | 95.50  | 119.00 | 147.00 | 180.00 | 195.00 | 219.00 | 241.00 |
| 35.0 | 43.20         | 56.60 | 72.80 | 92.50  | 115.50 | 143.50 | 176.00 | 191.00 | 215.00 | 236.00 |
| 40.0 |               | 54.40 | 70.20 | 89.50  | 112.00 | 139.50 | 172.00 | 186.00 | 210.00 | 231.00 |
| 45.0 |               |       | 67.70 | 86.50  | 109.00 | 135.50 | 167.00 | 182.00 | 205.00 | 226.00 |
| 50.0 |               |       |       | 83.50  | 105.50 | 131.50 | 163.00 | 177.00 | 200.00 | 221.00 |
| 55.0 |               |       |       | 80.50  | 102.00 | 128.00 | 158.00 | 172.00 | 195.00 | 216.00 |
| 60.0 |               |       |       |        | 99.00  | 124.00 | 154.00 | 168.00 | 190.00 | 211.00 |
| 62.0 |               |       |       |        | 97.50  | 122.50 | 153.00 | 166.00 | 188.00 | 209.00 |

|      | -25.0             | -20.0 | -15.0 | -10.0 | -5.0  | 0.0   | 5.0   | 7.0   | 10.0  | 12.5  |
|------|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|      | Heat Rejection kW |       |       |       |       |       |       |       |       |       |
| 10.0 | 14.85             | 18.10 | 21.90 | 26.20 | 31.30 |       |       |       |       |       |
| 15.0 | 14.30             | 17.50 | 21.20 | 25.40 | 30.30 | 35.90 |       |       |       |       |
| 20.0 | 13.75             | 16.85 | 20.40 | 24.60 | 29.40 | 34.80 | 41.00 | 43.70 |       |       |
| 25.0 | 13.20             | 16.20 | 19.70 | 23.80 | 28.40 | 33.70 | 39.70 | 42.30 | 46.50 | 50.20 |
| 30.0 | 12.65             | 15.60 | 19.00 | 22.90 | 27.40 | 32.60 | 38.40 | 41.00 | 45.00 | 48.60 |
| 35.0 | 12.10             | 14.95 | 18.30 | 22.10 | 26.50 | 31.50 | 37.10 | 39.60 | 43.50 | 47.00 |
| 40.0 |                   | 14.35 | 17.55 | 21.30 | 25.50 | 30.40 | 35.90 | 38.20 | 42.10 | 45.40 |
| 45.0 |                   |       | 16.85 | 20.50 | 24.60 | 29.30 | 34.60 | 36.90 | 40.60 | 43.90 |
| 50.0 |                   |       |       | 19.65 | 23.70 | 28.20 | 33.30 | 35.60 | 39.10 | 42.30 |
| 55.0 |                   |       |       | 18.90 | 22.80 | 27.10 | 32.10 | 34.30 | 37.70 | 40.80 |
| 60.0 |                   |       |       |       | 21.90 | 26.10 | 30.90 | 33.00 | 36.30 | 39.20 |
| 62.0 |                   |       |       |       | 21.60 | 25.70 | 30.40 | 32.50 | 35.70 | 38.60 |

# Copeland Selection Software

REFRIGERANT R22

## Operating Conditions:

Evaporating Temperature: -10.0°C  
 Condensing Temperature: 45.0°C  
 Liquid subcooling: 0.0K  
 Suction Return Temperature: 20.0°C

**Required Capacity: 20.0 kW**  
 Compressor Selected: D3SA-75X

### **PERFORMANCE AT SPECIFIED OPERATING POINT** **D3SA-75X Data at 50 Hz**

|                   |       |
|-------------------|-------|
| Capacity kW       | 14.35 |
| Power Input kW    | 6.42  |
| COP               | 2.24  |
| Mass Flow g/s     | 86.50 |
| Heat Rejection kW | 20.50 |

### **COMPRESSOR MECHANICAL AND PHYSICAL DATA**

|   |                             |
|---|-----------------------------|
| Number of cylinders 3                         | Bore/Stroke, mm 55.6/50.8   |
| Length/Width, mm 655/370                      | Height, mm 480              |
| Net Weight, kg 159                            | Gross Weight, kg 174        |
| Suction, inch 1 3/8                           | Discharge, inch 1 1/8       |
| Oil Quantity, l 3.7                           | Frequency Range, Hz 25 - 60 |
| High Side PS, bar(g) 28                       | Low Side PS, bar(g) 22.5    |
| Displacement @ 50 Hz, cu.m/h 32.2             |                             |
| Base mounting (hole dia), mm 381 x 305 (18.0) |                             |

### **COMPRESSOR ELECTRICAL DATA (380/420V - 3~ - 50Hz)**

Locked Rotor Current, A 82  
 Maximum Operating Current, A 17.9  
 Default Enclosure Class IP 54 (IEC 34)

### **ACCESSORIES INCLUDED**

|                     |             |
|---------------------|-------------|
| Oil Pressure Switch | OPS2 Sensor |
| Mounting Springs    | 4           |

## ***ACCESSORIES OPTIONAL***

Additional Cooling  
Crankcase Heater  
Enclosure Class  
Oil Pressure Switch  
Unloaded start  
Deep Oil Sump  
Adapter Kit  
Check Valve (NRV)

70W Vertical Air Flow Fan  
70W Internal  
IP 56  
OPS2 Electronic Switch  
Available  
Mounted  
For Parallel Operation  
For unloaded start operation