



اطلاعات فنی | TECHNICAL DATA

| NOVA F (Free-Cooling) | MODEL | NOVA F.663F4 | | NOVA F.773F6 | | NOVA F.783F8 | | NOVA F.793F8 | |
|---|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | | ECO.M1 | HE.M1 | ECO.M1 | HE.M1 | ECO.M1 | HE.M1 | ECO.M1 | HE.M1 |
| Type | | screw | screw | screw | screw | screw | screw | screw | screw |
| System | | air cooled | air cooled | air cooled | air cooled | air cooled | air cooled | air cooled | air cooled |
| Cooling capacity | kW | 231 | 241 | 353 | 368 | 434 | 448 | 476 | 495 |
| Compressor E.E.R. | kW/kW | 3.33 | 3.85 | 3.39 | 3.9 | 3.68 | 4.16 | 3.48 | 3.99 |
| E.E.R. | kW/kW | 3.02 | 3.39 | 3.08 | 3.44 | 3.29 | 3.59 | 3.15 | 3.51 |
| Inlet water fluid temperature | °C | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| Outlet water fluid temperature | °C | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Design ambient temperature | °C | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 |
| Elevation a.s.l. | m | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Type of refrigerant gas | R | 134a | 134a | 134a | 134a | 134a | 134a | 134a | 134a |
| Number of refrigerating circuits | N* | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Electrical feed according EN 60204-1 | V/ph/Hz | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 |
| Electrical cabinet | IP | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 |
| COMPRESSOR DATA | | | | | | | | | |
| Number of compressors | N* | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Total compressors nominal absorbed power | kW | 69.46 | 62.64 | 104.08 | 94.28 | 118.08 | 107.74 | 136.94 | 124.1 |
| Total compressors running current RLA | A | 123.38 | 114.34 | 173.92 | 159.92 | 196.58 | 181.84 | 228.54 | 210.22 |
| Starting method | Type | Part-Winding | Part-Winding | Part-Winding | Part-Winding | Part-Winding | Part-Winding | Part-Winding | Part-Winding |
| Max peak start current per compressor LRA | A | 269/508 | 269/508 | 423/686 | 423/686 | 479/790 | 479/790 | 516/887 | 516/887 |
| Max absorbed working current per compressor FLA | A | 108 | 108 | 162 | 162 | 170 | 170 | 180 | 180 |
| Partition steps per compressor | % | continuous | continuous | continuous | continuous | continuous | continuous | continuous | continuous |
| ECONOMIZER DATA | | | | | | | | | |
| Economizer | Type | plate | plate | plate | plate | plate | plate | plate | plate |
| FREE - COOLING INTEGRATED | | | | | | | | | |
| Cooling capacity | kW | 231 | 241 | 353 | 368 | 434 | 448 | 476 | 495 |
| Ambient temperature for 100% free cooling | °C | -1.9 | -4 | -1.5 | -3.4 | -0.7 | -2.5 | -1.6 | -3.6 |
| Inlet water fluid temperature | °C | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| Outlet water fluid temperature | °C | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Free cooling pressure drop free cooling (coil+evaporator+valves+pipng) | kPa | 80.63 | 84.3 | 152.08 | 160.11 | 132.07 | 127.88 | 140.35 | 136.8 |
| EVAPORATOR DATA | | | | | | | | | |
| Type of evaporator | Type | Plate | Plate | ST | ST | ST | ST | ST | ST |
| Approval | | PED | PED | PED | PED | PED | PED | PED | PED |
| Nominal flow rate | m ³ /h | 39.61 | 41.33 | 60.53 | 63.11 | 74.42 | 76.82 | 81.63 | 84.88 |
| Minimum flow rate | m ³ /h | 30 | 30 | 42 | 44 | 47 | 45 | 57 | 54 |
| Maximum flow rate | m ³ /h | 60 | 60 | 85 | 88 | 95 | 90 | 114 | 108 |
| Pressure drops | kPa | 25.76 | 27.9 | 74.59 | 80.5 | 68.67 | 73.47 | 68.54 | 73.62 |
| Hydraulic connections | DN | 100 | 100 | 100 | 100 | 100 | 100 | 125 | 125 |
| PROCESS PUMP DATA | | | | | | | | | |
| Pump P3 (optional) | | | | | | | | | |
| Maximum pump absorbed power | kW | 10.2 | 10.2 | 16.2 | 16.2 | 16.2 | 16.2 | 16.2 | 16.2 |
| Maximum pump absorbed current | A | 17.4 | 17.4 | 26.6 | 26.6 | 26.6 | 26.6 | 26.6 | 26.6 |
| Available pressure with single pump (WP option) | kPa | 280.83 | 275.47 | 251.63 | 242.41 | 262.30 | 264.41 | 247.41 | 247.89 |
| Available pressure with double pump (DP option) | kPa | NA | NA | NA | NA | NA | NA | NA | NA |
| Pump P5 (optional) | | | | | | | | | |
| Maximum pump absorbed power | kW | 19.94 | 19.94 | 19.94 | 19.94 | 31.9 | 31.9 | 31.9 | 31.9 |
| Maximum pump absorbed current | A | 32.7 | 32.7 | 32.7 | 32.7 | 53.5 | 53.5 | 53.5 | 53.5 |
| Available pressure with single pump (PH option) | kPa | 521.67 | 516.97 | 431.96 | 419.46 | 495.51 | 496.8 | 478.09 | 477.12 |
| Available pressure with double pump (DPH option) | kPa | NA | NA | NA | NA | NA | NA | NA | NA |
| AIR AXIAL FANS AND CONDENSER DATA | | | | | | | | | |
| Number of condenser coils | N* | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Number of fans | N* | 4 | 4 | 6 | 6 | 8 | 8 | 8 | 8 |
| Total absorbed power | kW | 7 | 8.44 | 10.5 | 12.66 | 14.00 | 16.88 | 14 | 16.88 |
| Total absorbed current | A | 14.36 | 14.08 | 21.54 | 21.12 | 28.72 | 28.16 | 28.72 | 28.16 |
| Total air flow | m ³ /h | 63389 | 76528 | 95083 | 114793 | 126778 | 153057 | 126778 | 153057 |
| TOTAL ELECTRIC DATA (for standard configuration) | | | | | | | | | |
| Nominal absorbed power | kW | 76.46 | 71.08 | 114.58 | 106.94 | 132.08 | 124.62 | 150.94 | 140.98 |
| Maximum absorbed power | kW | 138 | 140 | 204 | 207 | 220 | 224 | 240 | 244 |
| Maximum absorbed current (FLA) | A | 232 | 232 | 347 | 347 | 371 | 371 | 391 | 391 |
| Maximum peak current (LRA) | A | 667 | 667 | 926 | 926 | 1044 | 1044 | 1151 | 1151 |
| Maximum peak current with soft-start (LRA) (SF option) | A | 565 | 565 | 789 | 789 | 886 | 886 | 973 | 973 |
| NOISE DATA AT 10m ACCORDING ISO3744* | | | | | | | | | |
| Sound pressure level | dBA | 64.8 | 65.2 | 64 | 64.5 | 68.8 | 69 | 68.8 | 69 |
| Sound pressure level (low noise version) (LNX option) | dBA | 61.5 | 62.4 | 61 | 61.9 | 64.6 | 65 | 64.6 | 65 |
| Sound pressure level (extra low noise version) (ELN option) | dBA | 60.3 | 60.9 | 59.6 | 60.3 | 64.0 | 64.3 | 64 | 64.3 |
| DIMENSIONS** | | | | | | | | | |
| Length | mm | 3100 | 3100 | 4050 | 4050 | 5000 | 5000 | 5000 | 5000 |
| Width | mm | 2210 | 2210 | 2210 | 2210 | 2210 | 2210 | 2210 | 2210 |
| Height | mm | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 |
| WEIGHT | | | | | | | | | |
| Empty | kg | 2900 | 2900 | 4050 | 4050 | 4650 | 4650 | 4800 | 4800 |
| FREE SPACE | | | | | | | | | |
| Electrical panel side | mm | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 |
| Opposite side of electrical panel | mm | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 |
| Condensing coil sides | mm | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 |

NOTE

All data subject to change
M2 - STANDARD MOTOR VERSION
M1 - HIGH AMBIENT MOTOR VERSION
HE - HIGH EFFICIENCY VERSION
NE - WITHOUT ECONOMIZER VERSION
With glycol percentage > 30% and leaving water temperature < 0°C, pump need to be checked by technical department
With ambient temperature > 40°C, TR45 option required

NOTE

With ambient temperature > 45°C, TR50 option required
With leaving water temperature 13°C, NOVA F NEM1 version need to be chose
With ambient temperature between 0°C and -15°C, Low temperature (LT) option required
*From NOVA F.963 jackets instead of box for compressors
NOVA F comply with the European Regulation (EU) 2016/2281, referring to high temperature process chillers, according to minimum SEPR value.



اطلاعات فنی | TECHNICAL DATA

| NOVA F (Free-Cooling) | MODEL | NOVA F.863F8 | | NOVA F.873F10 | | NOVA F.883F12 | |
|--|---------|--------------|--------------|---------------|--------------|---------------|--------------|
| | | ECO.M1 | HE.M1 | ECO.M1 | HE.M1 | ECO.M1 | HE.M1 |
| Type | | screw | screw | screw | screw | screw | screw |
| System | | air cooled | air cooled | air cooled | air cooled | air cooled | air cooled |
| Cooling capacity | kW | 521 | 542 | 598 | 620 | 671 | 689 |
| Compressor E.E.R. | kW/kW | 3.31 | 3.86 | 3.52 | 4.07 | 3.73 | 4.15 |
| E.E.R. | kW/kW | 3.04 | 3.44 | 3.19 | 3.57 | 3.34 | 3.59 |
| Inlet water fluid temperature | °C | 12 | 12 | 12 | 12 | 12 | 12 |
| Outlet water fluid temperature | °C | 7 | 7 | 7 | 7 | 7 | 7 |
| Design ambient temperature | °C | 35 | 35 | 35 | 35 | 35 | 35 |
| Elevation a.s.l. | m | 0 | 0 | 0 | 0 | 0 | 0 |
| Type of refrigerant gas | R | 134a | 134a | 134a | 134a | 134a | 134a |
| Number of refrigerating circuits | N° | 2 | 2 | 2 | 2 | 2 | 2 |
| Electrical feed according EN 60204-1 | V/ph/Hz | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 |
| Electrical cabinet | IP | 54 | 54 | 54 | 54 | 54 | 54 |
| COMPRESSOR DATA | | | | | | | |
| Number of compressors | N° | 2 | 2 | 2 | 2 | 2 | 2 |
| Total compressors nominal absorbed power | kW | 157.2 | 140.5 | 169.76 | 152.42 | 179.68 | 166.08 |
| Total compressors running current FLA | A | 269.04 | 244.96 | 290.4 | 265.48 | 301.48 | 281.14 |
| Starting method | Type | Part-Winding | Part-Winding | Part-Winding | Part-Winding | Part-Winding | Part-Winding |
| Max peak start current per compressor LRA | A | 612/943 | 612/943 | 665/1023 | 665/1023 | 729/1114 | 729/1114 |
| Max absorbed working current per compressor FLA | A | 216 | 216 | 246 | 246 | 260 | 260 |
| Partition steps per compressor | % | continuous | continuous | continuous | continuous | continuous | continuous |
| ECONOMIZER DATA | | | | | | | |
| Economizer | Type | plate | plate | plate | plate | plate | plate |
| FREE - COOLING INTEGRATED | | | | | | | |
| Cooling capacity | kW | 521 | 542 | 598 | 620 | 671 | 689 |
| Ambient temperature for 100% free cooling | °C | -2.5 | -4.7 | -1.9 | -3.3 | -1.5 | -3.8 |
| Inlet water fluid temperature | °C | 12 | 12 | 12 | 12 | 12 | 12 |
| Outlet water fluid temperature | °C | 7 | 7 | 7 | 7 | 7 | 7 |
| Free cooling pressure drop free cooling (coil+evaporator+valves+pipng) | kPa | 136.61 | 131.09 | 136.42 | 159.95 | 142.92 | 131.12 |
| EVAPORATOR DATA | | | | | | | |
| Type of evaporator | Type | ST | ST | ST | ST | ST | ST |
| Approval | | PED | PED | PED | PED | PED | PED |
| Nominal flow rate | m3/h | 89.34 | 92.94 | 102.55 | 106.32 | 115.06 | 118.15 |
| Minimum flow rate | m3/h | 63 | 65 | 72 | 75 | 81 | 83 |
| Maximum flow rate | m3/h | 125 | 131 | 144 | 149 | 162 | 166 |
| Pressure drops | kPa | 54.68 | 58.55 | 63.68 | 67.64 | 50.62 | 53.68 |
| Hydraulic connections | DN | 125 | 125 | 150 | 150 | 150 | 150 |
| PROCESS PUMP DATA | | | | | | | |
| Pump P3 (optional) | | | | | | | |
| Maximum pump absorbed power | kW | 24.9 | 24.9 | 24.9 | 24.9 | 24.9 | 24.9 |
| Maximum pump absorbed current | A | 42.2 | 42.2 | 42.2 | 42.2 | 42.2 | 42.2 |
| Available pressure with single pump (WP option) | kPa | 284.67 | 288.38 | 277.86 | 251.97 | 263.51 | 272.99 |
| Available pressure with double pump (DP option) | kPa | NA | NA | NA | NA | NA | NA |
| Pump P5 (optional) | | | | | | | |
| Maximum pump absorbed power | kW | 39.1 | 39.1 | 39.1 | 39.1 | 39.1 | 39.1 |
| Maximum pump absorbed current | A | 65.6 | 65.6 | 65.6 | 65.6 | 65.6 | 65.6 |
| Available pressure with single pump (PH option) | kPa | 450.06 | 454.32 | 445.38 | 420.43 | 432.71 | 442.59 |
| Available pressure with double pump (DPH option) | kPa | NA | NA | NA | NA | NA | NA |
| AIR AXIAL FANS AND CONDENSER DATA | | | | | | | |
| Number of condenser coils | N° | 4 | 4 | 4 | 4 | 4 | 4 |
| Number of fans | N° | 8 | 8 | 10 | 10 | 12 | 12 |
| Total absorbed power | kW | 14 | 16.88 | 17.5 | 21.1 | 21.36 | 26.04 |
| Total absorbed current | A | 28.72 | 28.16 | 35.9 | 35.2 | 43.56 | 42.96 |
| Total air flow | m3/h | 126778 | 153057 | 158472 | 191321 | 179322 | 216287 |
| TOTAL ELECTRIC DATA (for standard configuration) | | | | | | | |
| Nominal absorbed power | kW | 171.2 | 157.38 | 187.26 | 173.52 | 201.04 | 192.12 |
| Maximum absorbed power | kW | 280 | 284 | 319 | 326 | 343 | 351 |
| Maximum absorbed current (FLA) | A | 463 | 463 | 531 | 531 | 567 | 567 |
| Maximum peak current (LRA) | A | 1259 | 1259 | 1385 | 1385 | 1497 | 1497 |
| Maximum peak current with soft-start (LRA) (SF option) | A | 1070 | 1070 | 1180 | 1180 | 1275 | 1275 |
| NOISE DATA AT 10m ACCORDING ISO3744* | | | | | | | |
| Sound pressure level | dBA | 67.6 | 67.9 | 68 | 68.2 | 69 | 69.2 |
| Sound pressure level (low noise version) (LNX option) | dBA | 63.6 | 64.2 | 63.9 | 64.4 | 64.8 | 65.5 |
| Sound pressure level (extra low noise version) (ELN option) | dBA | 62.9 | 63.3 | 63.3 | 63.6 | 64.2 | 64.6 |
| DIMENSIONS** | | | | | | | |
| Length | mm | 5000 | 5000 | 5950 | 5950 | 6900 | 6900 |
| Width | mm | 2210 | 2210 | 2210 | 2210 | 2210 | 2210 |
| Height | mm | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 |
| WEIGHT | | | | | | | |
| Empty | kg | 4950 | 4950 | 5500 | 5500 | 6300 | 6300 |
| FREE SPACE | | | | | | | |
| Electrical panel side | mm | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 |
| Opposite side of electrical panel | mm | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 |
| Condensing coil sides | mm | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 |

NOTE

All data subject to change
M2 - STANDARD MOTOR VERSION
M1 - HIGH AMBIENT MOTOR VERSION
HE - HIGH EFFICIENCY VERSION
NE - WITHOUT ECONOMIZER VERSION
With glycol percentage > 30% and leaving water temperature < 0°C, pump need to be checked by technical department.
With ambient temperature > 40°C, TR45 option required

NOTE

With ambient temperature > 45°C, TR50 option required
With leaving water temperature 13°C, NOVA F HE.M1 version need to be chose
With ambient temperature between 0°C and -15°C, Low temperature (LT) option required
*From NOVA F 963 jackets instead of box for compressors
NOVA F comply with the European Regulation (EU) 2016/2281, referring to high temperature process chillers, according to minimum SEPR value.



اطلاعات فنی | TECHNICAL DATA

| NOVA F (Free-Cooling) | MODEL | NOVA F.893F14 | | NOVA F.963F16 | | NOVA F.973F18 | |
|--|---------|---------------|--------------|---------------|------------|---------------|------------|
| | | ECO.M1 | HE.M1 | ECO.M1 | HE.M1 | ECO.M1 | HE.M1 |
| Type | | screw | screw | screw | screw | screw | screw |
| System | | air cooled | air cooled | air cooled | air cooled | air cooled | air cooled |
| Cooling capacity | kW | 771 | 792 | 894 | 924 | 1009 | 1050 |
| Compressor E.E.R. | kW/kW | 3.88 | 4.32 | 3.68 | 4.13 | 3.65 | 4.14 |
| E.E.R. | kW/kW | 3.45 | 3.7 | 3.29 | 3.57 | 3.27 | 3.59 |
| Inlet water fluid temperature | °C | 12 | 12 | 12 | 12 | 12 | 12 |
| Outlet water fluid temperature | °C | 7 | 7 | 7 | 7 | 7 | 7 |
| Design ambient temperature | °C | 35 | 35 | 35 | 35 | 35 | 35 |
| Elevation a.s.l. | m | 0 | 0 | 0 | 0 | 0 | 0 |
| Type of refrigerant gas | R | 134a | 134a | 134a | 134a | 134a | 134a |
| Number of refrigerating circuits | N° | 2 | 2 | 2 | 2 | 2 | 2 |
| Electrical feed according EN 60204-1 | V/ph/Hz | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 |
| Electrical cabinet | IP | 54 | 54 | 54 | 54 | 54 | 54 |
| COMPRESSOR DATA | | | | | | | |
| Number of compressors | N° | 2 | 2 | 2 | 2 | 2 | 2 |
| Total compressors nominal absorbed power | kW | 198.64 | 183.48 | 243.1 | 223.92 | 276.48 | 253.5 |
| Total compressors running current FLA | A | 356.06 | 334.9 | 410.6 | 382.88 | 461.56 | 427.88 |
| Starting method | Type | Part-Winding | Part-Winding | Star-Delta | Star-Delta | Star-Delta | Star-Delta |
| Max peak start current per compressor LRA | A | 757/1181 | 757/1181 | 586/1853 | 586/1853 | 650/2029 | 650/2029 |
| Max absorbed working current per compressor FLA | A | 310 | 310 | 370 | 370 | 420 | 420 |
| Partition steps per compressor | % | continuous | continuous | continuous | continuous | continuous | continuous |
| ECONOMIZER DATA | | | | | | | |
| Economizer | Type | plate | plate | plate | plate | plate | plate |
| FREE - COOLING INTEGRATED | | | | | | | |
| Cooling capacity | kW | 771 | 792 | 894 | 924 | 1009 | 1050 |
| Ambient temperature for 100% free cooling | °C | -3.4 | -3.3 | -2 | -3.4 | -2 | -3.3 |
| Inlet water fluid temperature | °C | 12 | 12 | 12 | 12 | 12 | 12 |
| Outlet water fluid temperature | °C | 7 | 7 | 7 | 7 | 7 | 7 |
| Free cooling pressure drop free cooling (coil+evaporator+valves+pipng) | kPa | 142.96 | 149.15 | 126.75 | 140.42 | 134.7 | 153.04 |
| EVAPORATOR DATA | | | | | | | |
| Type of evaporator | Type | ST | ST | ST | ST | ST | ST |
| Approval | | PED | PED | PED | PED | PED | PED |
| Nominal flow rate | m3/h | 132.21 | 135.81 | 153.3 | 158.45 | 173.02 | 180.06 |
| Minimum flow rate | m3/h | 77 | 79 | 107 | 111 | 110 | 115 |
| Maximum flow rate | m3/h | 155 | 159 | 215 | 222 | 220 | 229 |
| Pressure drops | kPa | 75.56 | 78.55 | 77.6 | 82.43 | 75.5 | 80.6 |
| Hydraulic connections | DN | 150 | 150 | 150 | 150 | 150 | 150 |
| PROCESS PUMP DATA | | | | | | | |
| Pump P3 (optional) | | | | | | | |
| Maximum pump absorbed power | kW | 24.9 | 24.9 | - | - | - | - |
| Maximum pump absorbed current | A | 42.2 | 42.2 | - | - | - | - |
| Available pressure with single pump (WP option) | kPa | 247.9 | 238.32 | - | - | - | - |
| Available pressure with double pump (DP option) | kPa | - | - | - | - | - | - |
| Pump P5 (optional) | | | | | | | |
| Maximum pump absorbed power | kW | - | - | - | - | - | - |
| Maximum pump absorbed current | A | - | - | - | - | - | - |
| Available pressure with single pump (PH option) | kPa | - | - | - | - | - | - |
| Available pressure with double pump (DPH option) | kPa | - | - | - | - | - | - |
| AIR AXIAL FANS AND CONDENSER DATA | | | | | | | |
| Number of condenser coils | N° | 4 | 4 | 4 | 4 | 4 | 4 |
| Number of fans | N° | 14 | 14 | 16 | 16 | 18 | 18 |
| Total absorbed power | kW | 24.92 | 30.38 | 28.48 | 34.72 | 32.04 | 39.06 |
| Total absorbed current | A | 50.82 | 50.12 | 58.08 | 57.28 | 65.34 | 64.44 |
| Total air flow | m3/h | 209209 | 252335 | 239096 | 288383 | 268983 | 324431 |
| TOTAL ELECTRIC DATA (for standard configuration) | | | | | | | |
| Nominal absorbed power | kW | 223.56 | 213.86 | 271.58 | 258.64 | 308.52 | 292.56 |
| Maximum absorbed power | kW | 399 | 408 | 523 | 533 | 545 | 556 |
| Maximum absorbed current (FLA) | A | 675 | 675 | 802 | 802 | 910 | 910 |
| Maximum peak current (LRA) | A | 1642 | 1642 | 2378 | 2378 | 2649 | 2649 |
| Maximum peak current with soft-start (LRA) (SF option) | A | 1406 | 1406 | 2008 | 2008 | 2243 | 2243 |
| NOISE DATA AT 10m ACCORDING ISO3744* | | | | | | | |
| Sound pressure level | dBA | 69.2 | 69.4 | 70 | 70.2 | 70.8 | 71 |
| Sound pressure level (low noise version) (LNX option) | dBA | 65 | 65.6 | 65.7 | 66.2 | 66.4 | 66.9 |
| Sound pressure level (extra low noise version) (ELN option) | dBA | 64.4 | 64.8 | 65.2 | 65.5 | 66 | 66.2 |
| DIMENSIONS** | | | | | | | |
| Length | mm | 7850 | 7850 | 8800 | 8800 | 9750 | 9750 |
| Width | mm | 2210 | 2210 | 2210 | 2210 | 2210 | 2210 |
| Height | mm | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 |
| WEIGHT | | | | | | | |
| Empty | kg | 7400 | 7400 | 8500 | 8500 | 9500 | 9500 |
| FREE SPACE | | | | | | | |
| Electrical panel side | mm | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 |
| Opposite side of electrical panel | mm | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 |
| Condensing coil sides | mm | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 |

NOTE

All data subject to change
M2 - STANDARD MOTOR VERSION
M1 - HIGH AMBIENT MOTOR VERSION
HE - HIGH EFFICIENCY VERSION
NE - WITHOUT ECONOMIZER VERSION
With glycol percentage > 30% and leaving water temperature < 0°C, pump need to be checked by technical department.
With ambient temperature > 40°C, TR45 option required

NOTE

With ambient temperature > 45°C, TR50 option required
With leaving water temperature 13°C, NOVA F NE.M1 version need to be chose
With ambient temperature between 0°C and -15°C, Low temperature (LT) option required
*From NOVA F 963 jackets instead of box for compressors
NOVA F comply with the European Regulation (EU) 2016/2281, referring to high temperature process chillers, according to minimum SEPR value.



اطلاعات فنی | TECHNICAL DATA

| NOVA F (Free-Cooling) | MODEL | NOVA F.973F24 | | NOVA F.983F20 | | NOVA F.993F22 | |
|--|-------------------|---------------|------------|---------------|------------|---------------|------------|
| | | ECO.M1 | HE.M1 | ECO.M1 | HE.M1 | ECO.M1 | HE.M1 |
| Type | | screw | screw | screw | screw | screw | screw |
| System | | air cooled | air cooled | air cooled | air cooled | air cooled | air cooled |
| Cooling capacity | kW | 1478 | 1506 | 1163 | 1208 | 1321 | 1372 |
| Compressor E.E.R. | kW/kW | 3.58 | 3.8 | 3.7 | 4.2 | 3.74 | 4.25 |
| E.E.R. | kW/kW | 3.24 | 3.36 | 3.32 | 3.65 | 3.37 | 3.71 |
| Inlet water fluid temperature | °C | 12 | 12 | 12 | 12 | 12 | 12 |
| Outlet water fluid temperature | °C | 7 | 7 | 7 | 7 | 7 | 7 |
| Design ambient temperature | °C | 35 | 35 | 35 | 35 | 35 | 35 |
| Elevation a.s.l. | m | 0 | 0 | 0 | 0 | 0 | 0 |
| Type of refrigerant gas | R | 134a | 134a | 134a | 134a | 134a | 134a |
| Number of refrigerating circuits | N° | 3 | 3 | 2 | 2 | 2 | 2 |
| Electrical feed according EN 60204-1 | V/ph/Hz | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 | 400/3/50 |
| Electrical cabinet | IP | 54 | 54 | 54 | 54 | 54 | 54 |
| COMPRESSOR DATA | | | | | | | |
| Number of compressors | N° | 3 | 3 | 2 | 2 | 2 | 2 |
| Total compressors nominal absorbed power | kW | 413.01 | 396.33 | 314.64 | 287.7 | 352.86 | 322.52 |
| Total compressors running current FLA | A | 689.82 | 665.25 | 526.12 | 487.08 | 582.66 | 537.66 |
| Starting method | Type | Star-Delta | Star-Delta | Star-Delta | Star-Delta | Star-Delta | Star-Delta |
| Max peak start current per compressor LRA | A | 650/2029 | 650/2029 | 805/2520 | 805/2520 | 805/2520 | 805/2520 |
| Max absorbed working current per compressor FLA | A | 420 | 420 | 450 | 450 | 450 | 450 |
| Partition steps per compressor | % | continuous | continuous | continuous | continuous | continuous | continuous |
| ECONOMIZER DATA | | | | | | | |
| Economizer | Type | plate | plate | plate | plate | plate | plate |
| FREE - COOLING INTEGRATED | | | | | | | |
| Cooling capacity | kW | 1478 | 1506 | 1163 | 1208 | 1321 | 1372 |
| Ambient temperature for 100% free cooling | °C | -6.4 | -5.1 | -2.2 | -3.5 | -2.3 | -3.6 |
| Inlet water fluid temperature | °C | 12 | 12 | 12 | 12 | 12 | 12 |
| Outlet water fluid temperature | °C | 7 | 7 | 7 | 7 | 7 | 7 |
| Free cooling pressure drop free cooling (coil+evaporator+valves+pipng) | kPa | 140.98 | 148.25 | 144.08 | 172.12 | 153.82 | 190.62 |
| EVAPORATOR DATA | | | | | | | |
| Type of evaporator | Type | ST | ST | ST | ST | ST | ST |
| Approval | | PED | PED | PED | PED | PED | PED |
| Nominal flow rate | m ³ /h | 253.45 | 258.25 | 199.43 | 207.15 | 226.53 | 235.27 |
| Minimum flow rate | m ³ /h | 161 | 151 | 140 | 145 | 144 | 150 |
| Maximum flow rate | m ³ /h | 323 | 302 | 279 | 290 | 289 | 300 |
| Pressure drops | kPa | 81.58 | 85.5 | 83.52 | 90.43 | 85.57 | 91.43 |
| Hydraulic connections | DN | 200 | 200 | 200 | 200 | 200 | 200 |
| PROCESS PUMP DATA | | | | | | | |
| Pump P3 (optional) | | | | | | | |
| Maximum pump absorbed power | kW | - | - | - | - | - | - |
| Maximum pump absorbed current | A | - | - | - | - | - | - |
| Available pressure with single pump (WP option) | kPa | - | - | - | - | - | - |
| Available pressure with double pump (DP option) | kPa | - | - | - | - | - | - |
| Pump P5 (optional) | | | | | | | |
| Maximum pump absorbed power | kW | - | - | - | - | - | - |
| Maximum pump absorbed current | A | - | - | - | - | - | - |
| Available pressure with single pump (PH option) | kPa | - | - | - | - | - | - |
| Available pressure with double pump (DPH option) | kPa | - | - | - | - | - | - |
| AIR AXIAL FANS AND CONDENSER DATA | | | | | | | |
| Number of condenser coils | N° | 12 | 12 | 4 | 4 | 4 | 4 |
| Number of fans | N° | 24 | 24 | 20 | 20 | 22 | 22 |
| Total absorbed power | kW | 42.48 | 51.6 | 35.6 | 43.4 | 39.16 | 47.74 |
| Total absorbed current | A | 86.64 | 85.44 | 72.6 | 71.6 | 79.86 | 78.76 |
| Total air flow | m ³ /h | 367939 | 442548 | 298870 | 360479 | 328757 | 396527 |
| TOTAL ELECTRIC DATA (for standard configuration) | | | | | | | |
| Nominal absorbed power | kW | 455.49 | 447.93 | 350.24 | 331.1 | 392.02 | 370.26 |
| Maximum absorbed power | kW | 812 | 826 | 599 | 611 | 603 | 616 |
| Maximum absorbed current (FLA) | A | 1354 | 1354 | 978 | 978 | 986 | 986 |
| Maximum peak current (LRA) | A | 3081 | 3081 | 3179 | 3179 | 3183 | 3183 |
| Maximum peak current with soft-start (LRA) (SF option) | A | 2675 | 2675 | 2675 | 2675 | 2679 | 2679 |
| NOISE DATA AT 10m ACCORDING ISO5744* | | | | | | | |
| Sound pressure level | dBA | 72.8 | 73.1 | 71.6 | 71.7 | 71.6 | 71.7 |
| Sound pressure level (low noise version) (LNX option) | dBA | 68.8 | 69.5 | 67.1 | 67.5 | 67.1 | 67.5 |
| Sound pressure level (extra low noise version) (ELN option) | dBA | 68.1 | 68.5 | 66.7 | 66.9 | 66.7 | 66.9 |
| DIMENSIONS** | | | | | | | |
| Length | mm | 12880 | 12880 | 10700 | 10700 | 11650 | 11650 |
| Width | mm | 2210 | 2210 | 2210 | 2210 | 2210 | 2210 |
| Height | mm | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 |
| WEIGHT | | | | | | | |
| Empty | kg | 13200 | 13200 | 10400 | 10400 | 11400 | 11400 |
| FREE SPACE | | | | | | | |
| Electrical panel side | mm | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 |
| Opposite side of electrical panel | mm | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 |
| Condensing coil sides | mm | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 |

NOTE

All data subject to change
M2 - STANDARD MOTOR VERSION
M1 - HIGH AMBIENT MOTOR VERSION
HE - HIGH EFFICIENCY VERSION
NE - WITHOUT ECONOMIZER VERSION
With glycol percentage > 30% and leaving water temperature < 0°C, pump need to be checked by technical department.
With ambient temperature > 40°C, TR45 option required

NOTE

With ambient temperature > 45°C, TR50 option required
With leaving water temperature 13°C, NOVA F HE.M1 version need to be chose
With ambient temperature between 0°C and -15°C, Low temperature (LT) option required
*From NOVA F 983 jackets instead of box for compressors
NOVA F comply with the European Regulation (EU) 2016/2281, referring to high temperature process chillers, according to minimum SEPR value.