



**COMEX
GROUP**

TUTTO UN ALTRO CLIMA



DUALTOP



HELICOIDAL CONDENSING SPLITED HEATING SYSTEM

ABOUT US ...technological innovation since 1986



OUR MISSION

Founded in 1986 as a manufacturer of industrial furnaces, **Comex Group** has built its history on a fundamental value: technological innovation.

Many years of experience in the heating and air-conditioning sectors, combined with the continuous acquisition of know-how on new technologies and applications, have enabled the company to apply solutions that are always up-to-date using heat pump systems, solar cooling, heat recovery, thermal power stations and, most recently, air sanitation.

Research and innovation have distinguished the company in the heating and air conditioning sector with important advantages for **Comex Group** customers in the areas of energy saving, safety and environmental protection.

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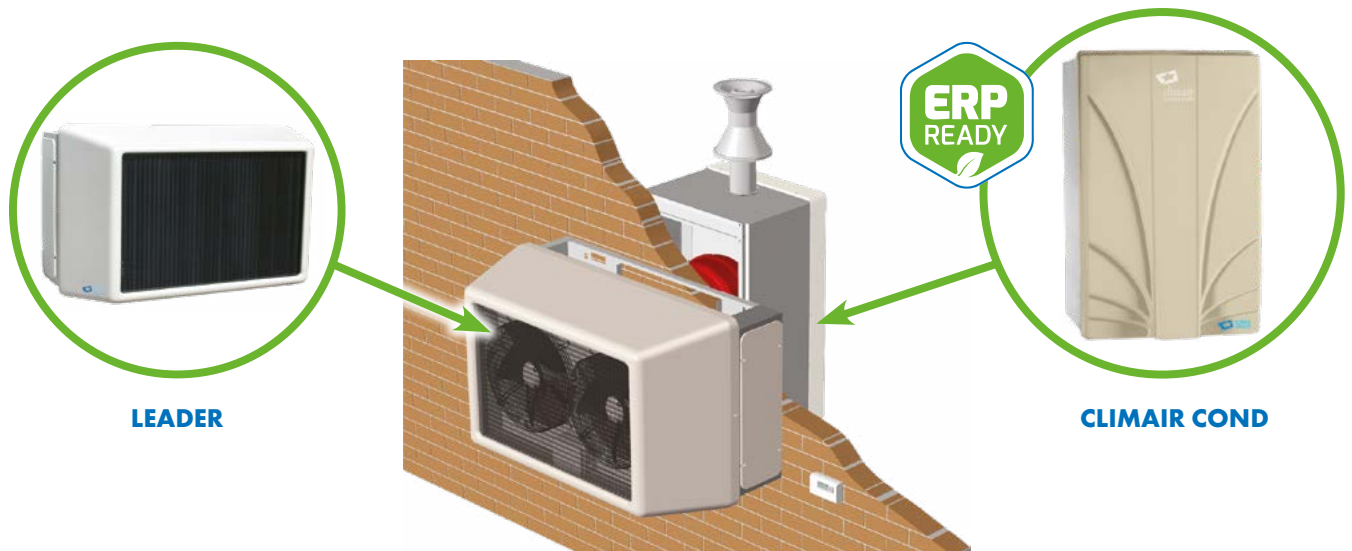
The data in this brochure should be regarded as indicative and not binding.
The Comex Group reserves the right to change them without prior notice.

DUALTOP

The helicoidal condensigng standard splited heating system

The **DUALTOP** system is designed for the heating of any industrial and commercial environment, in fact, the careful design allows it to be inserted even in prestigious environments.

DUALTOP is basically made up of the combination of: **CLIMAIR COND** + **LEADER**



DUALTOP is available with the following heat outputs: **32 kW, 47 kW, 65 kW, 94 kW, 107 kW** and offers a high average seasonal efficiency.

The wall-mounted condensing boiler has an IPX5D degree of protection and the fan heater IP54

The supporting structure with an ABS and painted steel shell for the fan heater, and ABS and painted INOX steel for the external boiler, both guarantee robustness and solidity.

The condensing boiler is equipped with a class 5 and 6 premixed low NO_x burner. An electronic control unit manages automatic modulation of the thermal load and variable speed ventilation with high air flow rates.

Why is **DUALTOP** an ideal solution?

1 BECAUSE IT ALLOWS WELL-BEING AND ENERGY SAVINGS

2 BECAUSE IT HEATS UP IN A VERY SHORT TIME

3 BECAUSE IT RESPECTS THE ENVIRONMENT AND REDUCES CO₂ EMISSIONS

DUALTOP - Main characteristics



The DUALTOP split system consists of a wall-hung "CLIMAIR" high-efficiency condensing boiler for outdoor use, combined with one or more "LEADER" fan heaters to be installed in the room to be heated. In the "C" version, the system is designed to be combined with a cooling unit for summer cooling.

The package includes:

- Wall-mounted condensing boiler from the Climair range
- On-site flue gas exhaust kit
- Internal fan heater(s) from the Leader range
- External probe for climatic compensation
- Room thermostat kit w/double speed

The DUALTOP split system is ideal for heating rooms where regulations prevent the installation of gas appliances inside rooms, and it is exempt from fire brigade practice even for systems greater than 116 kW, as the heat generator is installed outside the building and the capacities are therefore not added together.

DUALTOP - Technical characteristics

Various configurations possible with 5 types of boilers and 5 types of fan heaters.

The DUALTOP split system heats quickly thanks to a low thermal inertia of the condensing boiler exchange.r

- Outdoor MURAL condensing boiler
- On-site flue gas exhaust kit (standard)
- Room thermostat kit w/double speed (standard)
- External probe (standard)
- Climair casing in ABS and painted steel (Mod. 45, 70) or INOX steel (Mod. 35,100, 115)
- High efficiency ★★★★★
- Equipped with safety devices
- Frost protection
- Climair IPX5D degree of protection

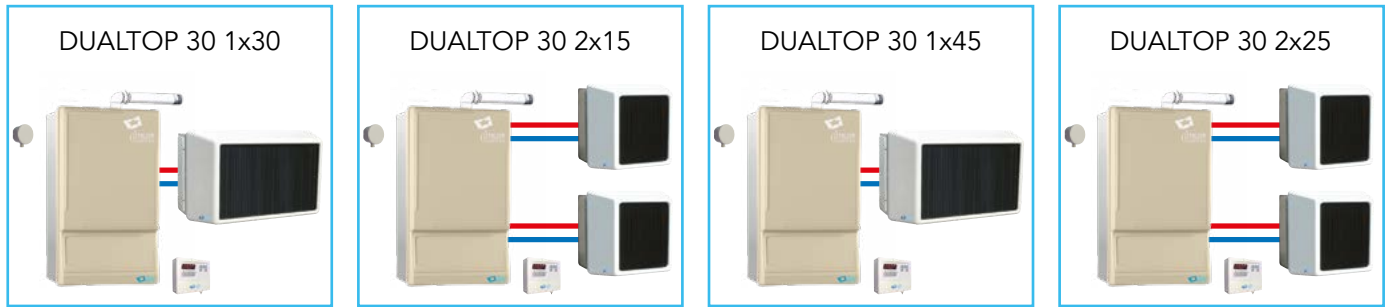
- Leader casing in ABS and galvanised steel
- Leader prepared for wall or ceiling installation
- Vertical air outlet orientation
- Dual speed fan and variable air flow at minimum speed
- Leader degree of protection IP54

Optionals

- Leader also available in Leader C version (not ceiling mounted)
- Bi-directional orientation of outlet air
- Filter for purification from suspended dust
- Flexible boiler-thermal fan connection kit
- Electrical expansion panel for controlling more than one Leader

For further information on use, plant design, etc., please contact the Comex Group technical department.

DUALTOP 30 - Range



DUALTOP 30 - Technical Data

| DUALTOP MODEL | | | 30 1x30 | 30 2x15 | 30 1x45 | 30 2x25 |
|--|-----------|-------------------|---------------|-------------|---------------|-------------|
| RATED HEAT CAPACITY [Hi] | Max | kW | 32,0 | 32,0 | 32,0 | 32,0 |
| | Min | kW | 3,4 | 3,4 | 3,4 | 3,4 |
| TOTAL HEAT OUTPUT | Max speed | kW | 30,8 | 30,8 | 30,8 | 30,8 |
| | Min speed | kW | 24,1 | 23,1 | 30,8 | 30,8 |
| AIR FLOW | Max speed | m ³ /h | 3.800 | 3.800 | 5.500 | 5.500 |
| | Min speed | m ³ /h | 1.900 | 1.900 | 4.300 | 4.300 |
| AIR TEMPERATURE | In | °C | 16 | 16 | 16 | 16 |
| | Out | °C | 42 | 42 | 35,5 | 35,5 |
| AIR THROW | Max speed | m | 16 | 16 | 20 | 20 |
| | Min speed | m | 12 | 12 | 17 | 17 |
| HYDRAULIC CONNECTIONS | | | | | | |
| CIRCULATION WATER FLOW RATE | | l/h | 1.060 | 1.060 | 1.060 | 1.060 |
| PLANT AVAILABLE HEAD | | m.w.c. | 3,2 | 3,3 | 3,2 | 3,3 |
| CLIMAIR HYDRAULIC CONNECTIONS | Gas | "M | ¾ | ¾ | ¾ | ¾ |
| | In/Out | "M | ¾ | ¾ | ¾ | ¾ |
| LEADER HYDRAULIC CONNECTIONS | In/Out | "M | ¾ | ¾ | ¾ | ¾ |
| ELECTRICAL CHARACTERISTICS - OVERALL DIMENSIONS | | | | | | |
| SUPPLY VOLTAGE | | V/Hz | 230/50 | 230/50 | 230/50 | 230/50 |
| ELECTRICAL POWER CONSUMPTION | Max | W | 322 | 322 | 462 | 462 |
| PROTECTION DEGREE | Climair | IP | IPX5D | IPX5D | IPX5D | IPX5D |
| | Leader | IP | IP44 | IP44 | IP44 | IP44 |
| CLIMAIR DIMENSIONS | WxHxD | mm | 400x705x355 | 400x705x355 | 400x705x355 | 400x705x355 |
| CLIMAIR WEIGHT | | kg | 50 | 50 | 50 | 50 |
| LEADER DIMENSIONS | WxHxD | mm | 1.148x736x618 | 748x736x618 | 1.148x736x618 | 748x736x618 |
| LEADER WEIGHT | | kg | 64 | 40 | 64 | 54 |
| NOISE LEVEL | Max speed | dB(A) | 50 | 48 | 54 | 52 |
| | Min speed | dB(A) | 47 | 45 | 51 | 49 |

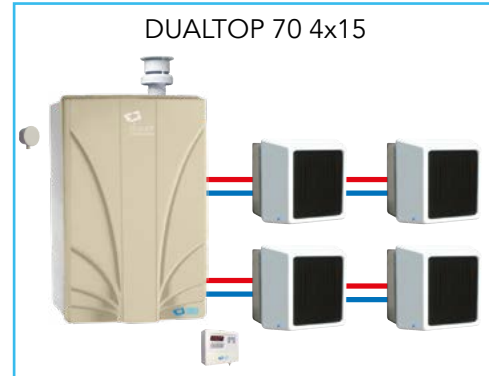
DUALTOP 50 - Range



DUALTOP 50 - Technical Data

| DUALTOP MODEL | | | 50 1x45 | 50 2x25 | 50 3x15 |
|--|--------------------|-------------------|---------------|-------------|-------------|
| RATED HEAT CAPACITY [Hi] | Max | kW | 47,0 | 47,0 | 47,0 |
| | Min | kW | 8,5 | 8,5 | 8,5 |
| TOTAL HEAT OUTPUT | Max speed | kW | 45,4 | 44,2 | 45,3 |
| | Min speed | kW | 41,9 | 39,6 | 35,3 |
| AIR FLOW | Max speed | m ³ /h | 5.500 | 5.500 | 5.700 |
| | Min speed | m ³ /h | 4.300 | 4.300 | 2.850 |
| AIR TEMPERATURE | In | °C | 16 | 16 | 16 |
| | Out | °C | 42,5 | 42 | 41,5 |
| AIR THROW | Max speed | m | 20 | 20 | 16 |
| | Min speed | m | 17 | 17 | 12 |
| HYDRAULIC CONNECTIONS | | | | | |
| CIRCULATION WATER FLOW RATE | | l/h | 1.775 | 1.775 | 1.775 |
| PLANT AVAILABLE HEAD | | m.w.c. | 1,2 | 1,7 | 1,5 |
| CLIMAIR HYDRAULIC CONNECTIONS | Gas | "M | ¾ | ¾ | ¾ |
| | In/Out | "M | ¾ | ¾ | ¾ |
| LEADER HYDRAULIC CONNECTIONS | In/Out | "M | ¾ | ¾ | ¾ |
| ELECTRICAL CHARACTERISTICS - OVERALL DIMENSIONS | | | | | |
| SUPPLY VOLTAGE | | V/Hz | 230/50 | 230/50 | 230/50 |
| ELECTRICAL POWER CONSUMPTION | Max | W | 580 | 580 | 550 |
| | Climair | IP | IPX5D | IPX5D | IPX5D |
| PROTECTION DEGREE | Leader | IP | IP44 | IP44 | IP44 |
| | CLIMAIR DIMENSIONS | WxHxD | mm | 558x940x525 | 558x940x525 |
| CLIMAIR WEIGHT | | kg | 54 | 54 | 54 |
| LEADER DIMENSIONS | WxHxD | mm | 1.148x736x618 | 748x736x618 | 748x736x618 |
| LEADER WEIGHT | | kg | 64 | 40 | 40 |
| NOISE LEVEL | Max speed | dB(A) | 54 | 52 | 48 |
| | Min speed | dB(A) | 51 | 49 | 45 |

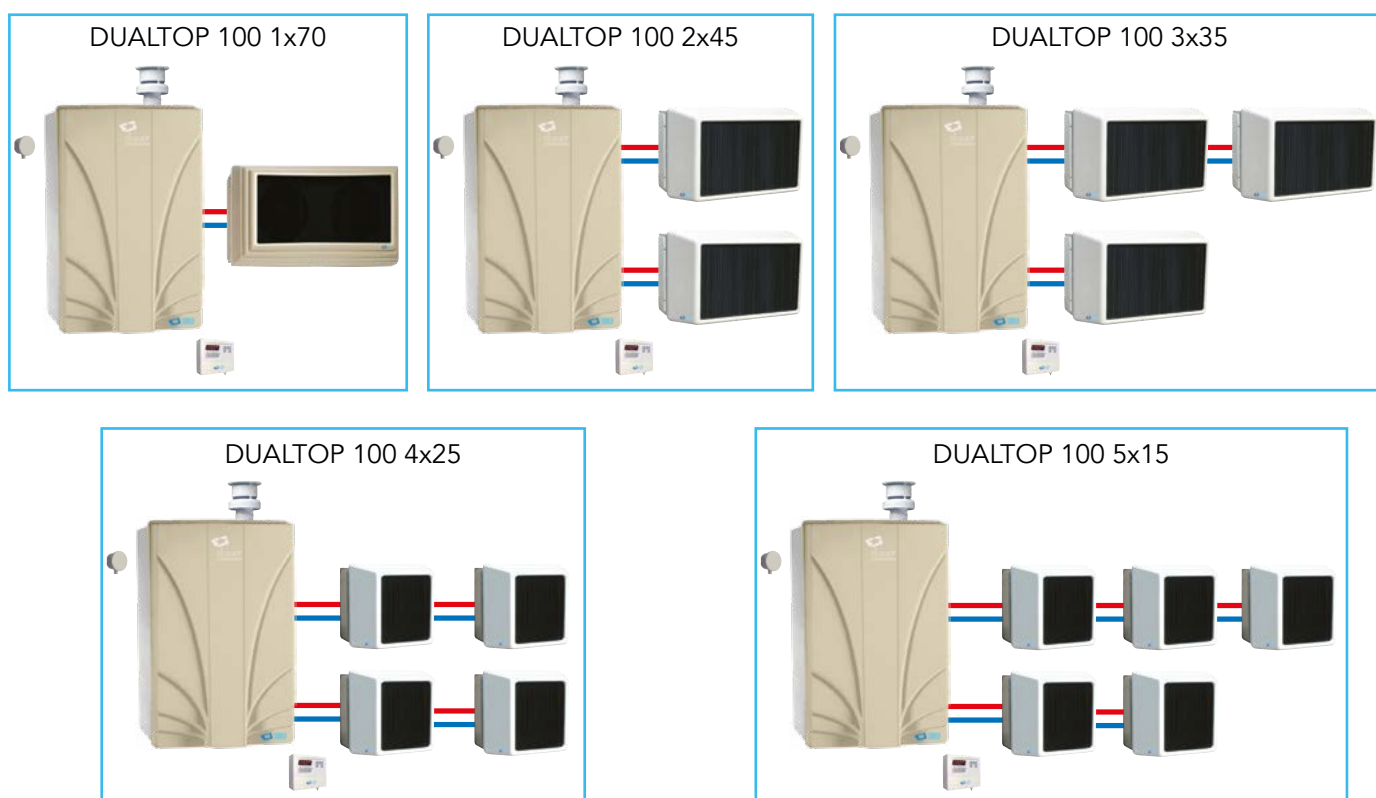
DUALTOP 70 - Range



DUALTOP 70 - Technical Data

| DUALTOP MODEL | | | 70 1x70 | 70 2x45 | 70 2x35 | 70 3x25 | 70 4x15 |
|--|--------------------|-------------------|---------------|---------------|---------------|---------------|---------------|
| RATED HEAT CAPACITY [Hi] | Max | kW | 65,0 | 65,0 | 65,0 | 65,0 | 65,0 |
| | Min | kW | 56,0 | 56,0 | 56,0 | 56,0 | 56,0 |
| TOTAL HEAT OUTPUT | Max speed | kW | 62,4 | 62,4 | 62,4 | 62,4 | 62,4 |
| | Min speed | kW | 57,8 | 62,4 | 49,3 | 58,3 | 47,4 |
| AIR FLOW | Max speed | m ³ /h | 11.500 | 11.000 | 7.600 | 8.250 | 7.600 |
| | Min speed | m ³ /h | 8.500 | 8.600 | 3.800 | 6.450 | 3.800 |
| AIR TEMPERATURE | In | °C | 16 | 16 | 16 | 16 | 16 |
| | Out | °C | 34,8 | 35,8 | 42,5 | 40,5 | 42,5 |
| AIR THROW | Max speed | m | 25 | 20 | 16 | 20 | 16 |
| | Min speed | m | 17 | 17 | 12 | 17 | 12 |
| HYDRAULIC CONNECTIONS | | | | | | | |
| CIRCULATION WATER FLOW RATE | | l/h | 2.460 | 2.460 | 2.460 | 2.460 | 2.460 |
| PLANT AVAILABLE HEAD | | m.w.c. | 1,9 | 1,2 | 1,2 | 1,8 | 1,4 |
| CLIMAIR HYDRAULIC CONNECTIONS | Gas | "M | 1 | 1 | 1 | 1 | 1 |
| | In/Out | "M | 1 | 1 | 1 | 1 | 1 |
| LEADER HYDRAULIC CONNECTIONS | In/Out | "M | 1 | ¾ | ¾ | ¾ | ¾ |
| ELECTRICAL CHARACTERISTICS - OVERALL DIMENSIONS | | | | | | | |
| SUPPLY VOLTAGE | | V/Hz | 230/50 | 230/50 | 230/50 | 230/50 | 230/50 |
| ELECTRICAL POWER CONSUMPTION | Max | W | 800 | 1.020 | 740 | 840 | 740 |
| | Climair | IP | IPX5D | IPX5D | IPX5D | IPX5D | IPX5D |
| PROTECTION DEGREE | Leader | IP | IP54 | IP44 | IP44 | IP44 | IP44 |
| | CLIMAIR DIMENSIONS | WxHxD | mm | 800x1.074x664 | 800x1.074x664 | 800x1.074x664 | 800x1.074x664 |
| CLIMAIR WEIGHT | | kg | 150 | 150 | 150 | 150 | 150 |
| LEADER DIMENSIONS | WxHxD | mm | 1.650x820x700 | 1.148x736x618 | 1.148x736x618 | 748x736x618 | 748x736x618 |
| LEADER WEIGHT | | kg | 93 | 64 | 64 | 40 | 40 |
| NOISE LEVEL | Max speed | dB(A) | 73 | 54 | 50 | 52 | 48 |
| | Min speed | dB(A) | 65 | 51 | 47 | 49 | 45 |

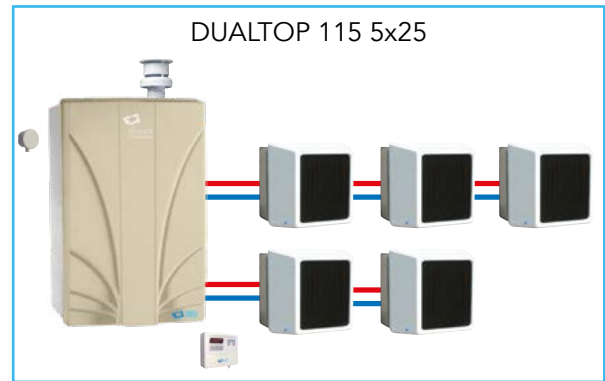
DUALTOP 100 - Range



DUALTOP 100 - Technical Data

| DUALTOP MODEL | | | 100 1x70 | 100 2x45 | 100 3x35 | 100 4x25 | 100 5x15 |
|--|-----------|-------------------|---------------|---------------|---------------|---------------|---------------|
| RATED HEAT CAPACITY [Hi] | Max | kW | 94,0 | 94,0 | 94,0 | 94,0 | 94,0 |
| | Min | kW | 11,8 | 11,8 | 11,8 | 11,8 | 11,8 |
| TOTAL HEAT OUTPUT | Max speed | kW | 67,5 | 88,5 | 91,2 | 82 | 82,5 |
| | Min speed | kW | 59,3 | 79,4 | 70,7 | 74,4 | 58,5 |
| AIR FLOW | Max speed | m ³ /h | 11.500 | 11.000 | 11.400 | 11.000 | 9.500 |
| | Min speed | m ³ /h | 8.500 | 8.600 | 5.700 | 8.600 | 4.750 |
| AIR TEMPERATURE | In | °C | 16 | 16 | 16 | 16 | 16 |
| | Out | °C | 34,5 | 41,5 | 41,5 | 40 | 44 |
| AIR THROW | Max speed | m | 25 | 20 | 16 | 20 | 16 |
| | Min speed | m | 17 | 17 | 12 | 17 | 12 |
| HYDRAULIC CONNECTIONS | | | | | | | |
| CIRCULATION WATER FLOW RATE | | l/h | 2.801 | 2.801 | 2.801 | 2.801 | 2.801 |
| PLANT AVAILABLE HEAD | | m.w.c. | 1,8 | 0,9 | 1,4 | 2,0 | 1,4 |
| CLIMAIR HYDRAULIC CONNECTIONS | Gas | "M | 1¼ | 1¼ | 1¼ | 1¼ | 1¼ |
| | In/Out | "M | 1¼ | 1¼ | 1¼ | 1¼ | 1¼ |
| LEADER HYDRAULIC CONNECTIONS | In/Out | "M | 1 | ¾ | ¾ | ¾ | ¾ |
| ELECTRICAL CHARACTERISTICS - OVERALL DIMENSIONS | | | | | | | |
| SUPPLY VOLTAGE | | V/Hz | 230/50 | 230/50 | 230/50 | 230/50 | 230/50 |
| ELECTRICAL POWER CONSUMPTION | Max | W | 835 | 1.055 | 995 | 1.055 | 885 |
| PROTECTION DEGREE | Climair | IP | IPX5D | IPX5D | IPX5D | IPX5D | IPX5D |
| | Leader | IP | IP54 | IP44 | IP44 | IP44 | IP44 |
| CLIMAIR DIMENSIONS | WxHxD | mm | 800x1.074x664 | 800x1.074x664 | 800x1.074x664 | 800x1.074x664 | 800x1.074x664 |
| CLIMAIR WEIGHT | | kg | 100 | 100 | 100 | 100 | 100 |
| LEADER DIMENSIONS | WxHxD | mm | 1.650x820x700 | 1.148x736x618 | 1.148x736x618 | 748x736x618 | 748x736x618 |
| LEADER WEIGHT | | kg | 93 | 64 | 64 | 40 | 40 |
| NOISE LEVEL | Max speed | dB(A) | 73 | 54 | 50 | 52 | 48 |
| | Min speed | dB(A) | 65 | 51 | 47 | 49 | 45 |

DUALTOP 115 - Range



DUALTOP 115 - Technical Data

| DUALTOP MODEL | | | 115 1x70 | 115 3x45 | 115 4x35 | 115 5x25 |
|--|-----------|-------------------|---------------|---------------|---------------|---------------|
| RATED HEAT CAPACITY [Hi] | Max | kW | 107,0 | 107,0 | 107,0 | 107,0 |
| | Min | kW | 15,0 | 15,0 | 15,0 | 15,0 |
| TOTAL HEAT OUTPUT | Max speed | kW | 71,1 | 104,0 | 103,9 | 103,2 |
| | Min speed | kW | 61,9 | 104,0 | 93,6 | 93,5 |
| AIR FLOW | Max speed | m ³ /h | 11.500 | 16.500 | 15.200 | 13.750 |
| | Min speed | m ³ /h | 8.500 | 12.900 | 7.600 | 10.750 |
| AIR TEMPERATURE | In | °C | 16 | 16 | 16 | 16 |
| | Out | °C | 35,3 | 35,7 | 37,6 | 40 |
| AIR THROW | Max speed | m | 25 | 20 | 16 | 20 |
| | Min speed | m | 17 | 17 | 12 | 17 |
| HYDRAULIC CONNECTIONS | | | | | | |
| CIRCULATION WATER FLOW RATE | | l/h | 3.578 | 3.578 | 3.578 | 3.578 |
| PLANT AVAILABLE HEAD | | m.w.c. | 4,3 | 3,6 | 4,1 | 4,7 |
| CLIMAIR HYDRAULIC CONNECTIONS | Gas | "M | 1 ¼ | 1 ¼ | 1 ¼ | 1 ¼ |
| | In/Out | "M | 1 ¼ | 1 ¼ | 1 ¼ | 1 ¼ |
| LEADER HYDRAULIC CONNECTIONS | In/Out | "M | 1 | ¾ | ¾ | ¾ |
| ELECTRICAL CHARACTERISTICS - OVERALL DIMENSIONS | | | | | | |
| SUPPLY VOLTAGE | | V/Hz | 230/50 | 230/50 | 230/50 | 230/50 |
| ELECTRICAL POWER CONSUMPTION | Max | W | 1.180 | 1.760 | 1.560 | 1.580 |
| PROTECTION DEGREE | Climair | IP | IPX5D | IPX5D | IPX5D | IPX5D |
| | Leader | IP | IP54 | IP44 | IP44 | IP44 |
| CLIMAIR DIMENSIONS | WxHxD | mm | 800x1.074x664 | 800x1.074x664 | 800x1.074x664 | 800x1.074x664 |
| CLIMAIR WEIGHT | | kg | 110 | 110 | 110 | 110 |
| LEADER DIMENSIONS | WxHxD | mm | 1.650x820x700 | 1.148x736x618 | 1.148x736x618 | 748x736x618 |
| LEADER WEIGHT | | kg | 93 | 64 | 64 | 40 |
| NOISE LEVEL | Max speed | dB(A) | 73 | 54 | 50 | 48 |
| | Min speed | dB(A) | 65 | 51 | 47 | 45 |

DUALTOP C - Technical Information

The DUALTOP C split system is designed to be combined with a cooling unit for summer cooling.

In difference to the DUALTOP split system, it consists of one or more "LEADER C" chillers, which are excellently suited for cooling and heating industrial and commercial environments.

LEADER C - Technical Data

| LEADER C MODEL | | | 15 | 25 | 35 | 45 | 70 |
|---|-----------|-------------------|--------|--------|--------|--------|--------|
| AIR FLOW | Max speed | m ³ /h | 1.900 | 2.750 | 3.800 | 5.500 | 11.500 |
| | Min speed | m ³ /h | 950 | 2.150 | 1.900 | 4.300 | 8.500 |
| AIR THROW | Max speed | m | 16 | 20 | 16 | 20 | 25 |
| | Min speed | m | 12 | 17 | 12 | 17 | 17 |
| WATER IN/OUT TEMPERATURE 5 - 10 | | | | | | | |
| TOTAL HEAT OUTPUT | Max speed | kW | 6,5 | 7,9 | 16,3 | 19,4 | 26,7 |
| | Min speed | kW | 5,2 | 7,4 | 12,3 | 17,9 | 24,4 |
| SENSIBLE HEAT OUTPUT | Max speed | kW | 5,6 | 7,1 | 12,7 | 15,8 | 21,9 |
| | Min speed | kW | 4,0 | 6,3 | 8,6 | 13,9 | 19,1 |
| AIR TEMPERATURE | Input | °C | 26 | 26 | 26 | 26 | 26 |
| | Output | °C | 17,5 | 18,5 | 16,1 | 17,5 | 20 |
| RELATIVE HUMIDITY | Input | % | 50 | 50 | 50 | 50 | 50 |
| | Output | % | 80 | 75,5 | 81 | 77,6 | 67,1 |
| CIRCULATION WATER FLOW RATE | | l/h | 1.116 | 1.368 | 2.808 | 3.348 | 4.572 |
| WATER CIRCUIT PRESSURE DROP | | mbar | 58 | 67 | 325 | 437 | 267 |
| TEMPERATURA ACQUA IN/OUT 7 - 12 | | | | | | | |
| TOTAL HEAT OUTPUT | Max speed | kW | 5,1 | 6,5 | 13,6 | 16,0 | 22 |
| | Min speed | kW | 4,0 | 5,9 | 10,4 | 14,7 | 20 |
| SENSIBLE HEAT OUTPUT | Max speed | kW | 4,8 | 6,2 | 11,7 | 14,2 | 20 |
| | Min speed | kW | 3,4 | 5,6 | 7,9 | 12,5 | 17,5 |
| AIR TEMPERATURE | Input | °C | 26 | 26 | 26 | 26 | 26 |
| | Output | °C | 18,4 | 19,0 | 17,5 | 18,4 | 21 |
| RELATIVE HUMIDITY | Input | % | 50 | 50 | 50 | 50 | 50 |
| | Output | % | 78,3 | 74,6 | 79,6 | 76,7 | 66 |
| CIRCULATION WATER FLOW RATE | | l/h | 864 | 1.116 | 2.340 | 2.736 | 3.780 |
| WATER CIRCUIT PRESSURE DROP | | mbar | 37 | 57 | 232 | 311 | 195 |
| HYDRAULIC, ELECTRICAL CHARACTERISTICS - OVERALL DIMENSIONS | | | | | | | |
| HYDRULIC CONNECTIONS | In/Out | "M | ¾ | ¾ | ¾ | ¾ | 1 |
| SUPPLY VOLTAGE | | V/Hz | 230/50 | 230/50 | 230/50 | 230/50 | 230/50 |
| ELECTRICAL POWER CONSUMPTION | Max | W | 110 | 180 | 220 | 360 | 500 |
| PROTECTION DEGREE | | IP | IP44 | IP44 | IP44 | IP44 | IP54 |
| DIMENSIONS | H | mm | 736 | 736 | 736 | 736 | 820 |
| | L | mm | 748 | 748 | 1.148 | 1.148 | 1.650 |
| | P | mm | 618 | 618 | 618 | 618 | 700 |
| WEIGHT | | kg | 42 | 42 | 67 | 67 | 93 |
| NOISE LEVEL | Max speed | dB(A) | 49 | 53 | 51 | 55 | 73 |
| | Min speed | dB(A) | 46 | 50 | 48 | 52 | 65 |

For further information on use, plant design, etc., please contact the Comex Group technical department.

Some applications

DUALTOP INSTALLATIONS



HYBRID SYSTEMS



INDUSTRIAL OVENS



LITHIUM BROMIDE ABSORPTION CHILLER



ENERGY RECUPERATOR



CONDENSING THERMAL POWER STATIONS



OUR MISSION

Founded in 1986 as a manufacturer of industrial furnaces, Comex Group has built its history on a fundamental value: technological innovation. Many years of experience in the heating and air-conditioning sectors, combined with the continuous acquisition of know-how on new technologies and applications, have enabled the company to apply solutions that are always up-to-date using heat pump systems, solar cooling, heat recovery, thermal power stations and, most recently, air sanitation. Research and innovation have distinguished the company in the heating and air-conditioning sector with important advantages for Comex Group customers in the areas of energy saving, safety and environmental protection.

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