

## DYNEO DD-900F Refrigerated/Heating Circulator

### New temperature control technology for demanding applications

DYNEO DD refrigerated circulators have a wide working temperature range. Refrigerated circulators are suitable for both internal and external applications. The multilingual 3.5-inch color display and unique rotary knob provide for straightforward and intuitive operation. Pump capacity is 22 l/min with pressure of 0.6 bar. The cooling machines operate precisely and reliably even at elevated ambient temperatures up to +40 °C.



### Your advantages

- Powerful cooling machines
- Suitable for internal and external applications
- Optimized cooling coil design saves space in the bath tank
- Powerful and infinitely adjustable pressure pump
- Flow rate 22 l/min, pressure 0.6 bar
- Easy switching between internal and external circulation
- Large color TFT display, multilingual interface
- Central rotary knob (controller) simplifies operation
- Integrated programmer for 8 x 60 program steps
- Integrated external Pt100 connection
- USB port
- RS232 interface or analog interfaces (optional)
- Bath cover included with delivery
- Integrated drain makes emptying liquid easy and safe.

### Technical Data

Order No.	9021706						
Order No. with RS232 Option	9021706.D						
Order No. with analog Option	9021706.A						
Model series	DYNEO						
Category	Refrigerated - Heating Circulators						
Working temperature range (°C)	-38 ... +200						
Temperature control	PID						
Temperature stability (°C)	±0.01						
Setting / display resolution	0.01 °C						
Temperature Display	3.5" TFT Display						
Heating capacity (kW)	2						
Cooling capacity (Medium Ethanol)	°C	20	10	0	-10	-20	-30
	kW	0.9	0.85	0.8	0.52	0.31	0.11
Pump capacity flow rate (l/min)	8 ... 23						
Pump capacity flow pressure (bar)	0.1 ... 0.6						
Viscosity max. (cSt)	50						
Bath opening / bath depth (W x L / D cm)	26 x 35 / 20						

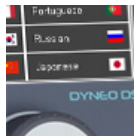
Pump connections	M16x1
Barbed fittings diameter (inner dia. / mm)	8 / 12
Filling volume liters	21 ... 30
Refrigerant stage 1	R452A
Filling volume refrigerant stage 1 (g)	220
Global Warming Potential for R452A	2140
Carbon dioxide equivalent stage 1 (t)	0.471
Refrigerant stage 2	R452A
Global Warming Potential for R452A	2140
Digital interface	USB
Analog connection input / output	Optional
Ambient temperature	5...40 °C
Dimensions W x L x H (cm)	39 x 62 x 75
Weight (kg)	51.7
Included with each unit	2 each barbed fitting for tubing 8 and 12 mm inner dia. (pump connections M16x1 male)
Bath tank	Stainless steel
Bath cover	integrated
Cooling of compressor	Air
Available voltage versions	115V/60Hz 200-230V/50-60Hz

## Characteristics



### 100 % Cooling capacity.

'Active Cooling Control' for cooling available throughout the entire working temperature range, fast cool-down even at higher temperatures.



### Multi-lingual.

Operation in multiple languages.



### Analog I/O.

Analog interfaces for integration into process control systems.



### Powerful. Adjustable.

Strong pressure pump, continuously adjustable.



### ATC3 Calibration.

'Absolute Temperature Calibration' for compensating a physically caused temperature difference, 3-point calibration.



### Process stability.

Early warning - visual and acoustic - of critical states increases process stability.



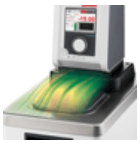
### Brilliance. In color.

Large color display with vivid luminance is easy to read, even from a large distance.



### Process. Under control.

Full control of the dynamic, access to all important control parameters for individual process optimisation.



**Condensation protection.**

Superb design solution. Integrated ventilation directs air over the bath lid and minimizes condensation.



**Programmer. Integrated.**

The integrated internal programmer makes it possible to automatically run temperature time profiles.



**Connection. Easy.**

Inclined pump connections (M16x1) facilitate the connection of applications. Each unit includes 2 barbed fittings of 8/12 mm diameter each.



**RS232.**

Standard connection using the serial RS232 interface.



**Everything at the front.**

All operating controls and safety functions are accessed easily and comfortably from the front.



**Stable. Mobile.**

Rubber feet keep JULABO Circulators standing firm. Larger and more powerful units also have integrated rollers for easy handling.



**Fill level. Monitored.**

Fill level indicator on the display for heat-transfer liquid.



**Temperature. Under control.**

External Pt100 sensor connection for precise measurement and control directly in the external application.



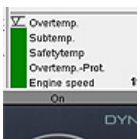
**Highly precise.**

PID Temperature control with drift compensation and adjustable control parameters, temperature stability  $\pm 0.01$  ...  $\pm 0.02$  °C.



**Turn. Push. Go.**

Easy operation of all parameters using the central controller.



**Information. Everything clear.**

Information in plain text on a large color screen.



**USB.**

Remote control made easy using the integrated USB interface.