

# CHP 555



## 555kWe Combined Heat and Power System

Dresser-Rand CHP Solutions (a Dresser-Rand strategic business unit) provides a complete range of fully packaged and tested combined heat and power (CHP) systems to commercial, industrial and municipal energy users worldwide. CHP (or cogeneration) systems reduce on-site energy costs and carbon dioxide emissions through the highly efficient delivery of power and heating. Combined cooling, heat and power (CCHP or Trigeneration) systems, provide the high efficiency of CHP, with the added benefit of chilled water output.

CHP systems offer an environmentally-friendly option for the provision of electricity and heat by recovering thermal energy that would typically be wasted in conventional power plants. With standard modular CHP and trigen systems ranging from 250kWe to 2.4MWe, a Dresser-Rand packaged CHP solution increases energy productivity, efficiency and reliability, while substantially lowering clients' greenhouse gas (GHG) emissions.

### CHP System Performance

Operating Load		100%	75%	50%
Electrical output [1]	kW	555	416	278
Hot water output [2]	BTU/hr x 1000	3,509	2,861	2,183
Chilled water output	USRT	200	163	125
Fuel input (LHV) [3]	BTU/hr x 1000	6,188	4,898	3,558
Generating efficiency	%	30.6	29.0	26.7
Heating efficiency [2][3]	%	56.7	58.4	61.3
Plant efficiency (LHV)	%	87.3	87.4	88.0

### 555kWe of Continuous, On-site Electrical Power

Energy consumers demand high efficiency and reliability in order to minimize operating costs and maximize uptime. Our CHP systems are supplied as a comprehensive factory tested package that can be easily integrated into existing site operations. Items such as synchronizing switchgear, heat recovery equipment, emissions treatment, attenuation, and lube oil systems are included "within the box" dramatically reducing the risk of cost overruns and performance issues associated with traditional "site built" systems.

#### CHP package data

LTHW flow temperature (°F/°C)	180/82
LTHW return temperature (°F/°C)	160/71
Noise dB(A) at 3'	< 75
Hot water 20 °F delta T (GPM/m <sup>3</sup> /hr)	365/83

#### Chiller package data

Chilled water flow temp (°F/°C)	45/7
Chilled water return temp (°F/°C)	54/13
Noise dB(A) at 3'	< 75
Chilled water (GPM/m <sup>3</sup> /hr) [5]	482/109

#### CHP dimension data [4]

Overall package length (ft/m)	32'/9.7
Overall package width (ft/m)	11'6"/3.5
Overall package height (ft/m)	9'3"/2.8
Estimated operating weight (lbs/kg)	45,000/20,000

#### Chiller section dimension data [4][5]

Overall package length (ft/m)	19'6"/5.9
Overall package width (ft/m)	11'6"/3.5
Overall package height (ft/m)	9'3"/2.8
Estimated operating weight (lbs/kg)	25,000/11,338

For more information about Dresser-Rand's **CHP 555**, please contact us at one of the following locations:

**Dresser-Rand**

CHP Solutions USA  
760 Chief Justice Cushing Highway  
Cohasset, MA 02025  
Tel: (Int'l +1) 781-383-0304  
Fax: (Int'l +1) 781-383-0450

**Dresser-Rand**

CHP Solutions  
85 Papyrus Road  
Peterborough PE4 5HG England  
Tel: (Int'l+44) (0) 1733 292200

For a complete list of D-R products and services, visit us at [www.dresser-rand.com](http://www.dresser-rand.com) or contact us at the following locations:

**Dresser-Rand  
Corporate Headquarters**

West8 Tower Suite 1000  
10205 Westheimer Road  
Houston, TX 77042 USA  
Tel: (Int'l +1) 713-354-6100  
Fax: (Int'l +1) 713-354-6110  
email: [info@dresser-rand.com](mailto:info@dresser-rand.com)

112, Avenue Kleber  
75784 – Paris Cedex 16  
Tel: (Int'l +33) 156 26 71 71  
Fax: (Int'l +33) 156 26 71 72  
email: [info@dresser-rand.com](mailto:info@dresser-rand.com)

**Regional Headquarters**

**The Americas**

Dresser-Rand  
West8 Tower Suite 1000  
10205 Westheimer Road  
Houston, TX 77042 USA  
Tel: (Int'l +1) 713-354-6100  
Fax: (Int'l +1) 713-354-6110

**EMEA**

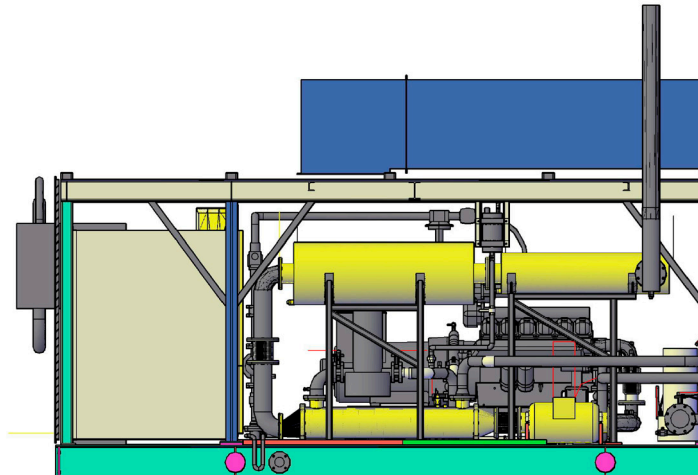
(Europe, Middle East, Africa)  
Dresser-Rand S.A.  
31 Boulevard Winston Churchill  
Cedex 7013  
Le Havre 76080 France  
Tel: (Int'l +33) 2-35-25-5225  
Fax: (Int'l +33) 2-35-25-5366 / 5367

**Asia Pacific**

Dresser-Rand Asia Pacific Sdn Bhd  
Unit 9-4, 9th Floor  
Bangunan Malaysian Re  
17 Lorong Dungun  
Damansara Heights  
50490 Kuala Lumpur, Malaysia  
Tel: (Int'l +60) 3-2093-6633  
Fax: (Int'l +60) 3-2093-2622

**Environmentally Friendly – and Appropriate**

The CHP 555 employs a three-way catalyst to reduce CO and NOx emissions in accordance with local regulations. When applied correctly in CHP or trigen applications the system will also substantially reduce GHG when compared to conventional heating plant and grid electricity. A fully employed CHP 555 will typically reduce CO2 emissions by more than 1,800 tons per year (dependent upon hours of operation, local grid efficiency and efficiency of displaced heating plant).



Engine model	CAT 3512 SITA (DM 5109)
Engine speed (rpm)	1200
Cylinder arrangement	V 12
Swept volume (cubic in/cubic cm)	3,161/52,000
Compression ratio	9.0:1
Generator output (V/ph/Hz)	480/3/60
Natural gas LHV (BTU/ft <sup>3</sup> )	905
Power rating according to	ISO3046/1
NOx emissions (g/BHP.hr) [6]	<0.1
CO emissions (g/BHP.hr)	<0.6

Features	Benefits
Extended oil and secondary filtration system	Significantly extends oil service intervals and reduces downtime, extends engine life
Removable acoustic enclosure panels	Provides optimal noise attenuation and ease of access for maintenance
Integrated programmable logic controller (PLC) and remote monitoring system	Allows for remote and on-site monitoring and reporting as well as communication to the site's existing building management system
Isolated control room	Allows for separate standing/working area, isolated from the engine and mechanical systems during on-site operations
Full load factory test	Ensures full capabilities before leaving the factory

Notes:

- [1] Gross output based on 77°F (25°C) ambient air temperature
- [2] Thermal output tolerance +/- 8% full load data
- [3] Fuel Input tolerance +5% full load data
- [4] All dimensions indicative (height excludes pitch for external units)
- [5] Depending on chiller manufacturer selection
- [6] 3-way catalyst employed

©2010 Dresser-Rand. This document comprises a general overview of the products described herein. It is solely for informational purposes, does not represent a warranty or guarantee of the information contained herein and is not to be construed as an offer to sell or a solicitation to buy. Contact Dresser-Rand for detailed design and engineering information suitable to your specific applications. Dresser-Rand reserves the right to modify its products and related product information at any time without prior notice.

