



P-Engineering Pipe Specification Overview

Acid HCl 30%

PN10

PN: PN10 Operation Data [P] 6 [T] 50

Description Hydrochloric Acid 30%

FAHC04

Fluid Acid HCl 30% 4 Barg

Pressure [Barg]: **4** Temp. [C]: **40** Dew Point [C]: **N/A**

64



P-Engineering Pipe Specification Overview

Acid Industry, Gen, **PN10**

PN: PN10 Operation Data [P] 8 [T] 50

Description Acid General Industrial Grade



P-Engineering Pipe Specification Overview

Acid Pharma, General

PN10

PN: PN10 Operation Data [P] 8 [T] 50

Description Acid General Pharma Grade



P-Engineering Pipe Specification Overview

Air Compressed I

PN10

PN: PN10 Operation Data [P] 8 [T] 30

Description Compressed Air Industrial Grade

GAI106	Gas	Instrumentation Air 6 barg
	Pressure [Barg]:	6 Temp. [C]: 20 Dew Point [C]: -30C
17		

GAI108	Gas	Instrumentation Air 8 barg
	Pressure [Barg]:	8 Temp. [C]: 20 Dew Point [C]: -30C
13		

GAIW08	Gas	Work/Tool Air 8 Barg
	Pressure [Barg]:	8 Temp. [C]: 28 Dew Point [C]: -5C
14		

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P-Engineering Pipe Specification Overview

Air Compressed II

PN16

PN: PN16 Operation Data [P] 12 [T] 30

Description Compressed Air Industrial Grade

GAIIO6	Gas	Instrumentation Air 6 barg
17	Pressure [Barg]: 6	Temp. [C]: 20 Dew Point [C]: -30C
GAIIO8	Gas	Instrumentation Air 8 barg
13	Pressure [Barg]: 8	Temp. [C]: 20 Dew Point [C]: -30C
GAIW08	Gas	Work/Tool Air 8 Barg
14	Pressure [Barg]: 8	Temp. [C]: 28 Dew Point [C]: -5C

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P-Engineering Pipe Specification Overview

Air Compressed III

PN10

PN: PN10 Operation Data [P] 8 [T] 30

Description Compressed Air Pharma Grade

GAIC06

Gas Clean Instrumentation Air 06 barg

Pressure [Barg]: **6** Temp. [C]: **20** Dew Point [C]: **-50C**

18



P-Engineering Pipe Specification Overview

Air Compressed IV

PN16

PN: PN16 Operation Data [P] 12 [T] 30

Description Compressed Air Pharma Grade

GAIC06	Gas	Clean Instrumentation Air 06 barg
	Pressure [Barg]:	6 Temp. [C]: 20 Dew Point [C]: -50C
18		



P-Engineering Pipe Specification Overview

CIP

PN10

PN: PN10 Operation Data [P] 8 [T] 90

Description Pharma Cleaning Installations

FWTT08

Fluid Water Technical 8 Barg

Pressure [Barg]: **8** Temp. [C]: **15** Dew Point [C]: **N/A**

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P-Engineering Pipe Specification Overview

CO2

PN10

PN: PN10 Operation Data [P] 6 [T] -40

Description Industrial Cooling System

FPCF21	Fluid	CO2 Cooling Forward -20C
36	Pressure [Barg]:	4 Temp. [C]: -20 Dew Point [C]: N/A
FPCF31	Fluid	CO2 Cooling Forward -30C
34	Pressure [Barg]:	4 Temp. [C]: -30 Dew Point [C]: N/A
FPCR11	Fluid	CO2 Proces Cooling Return - 11C
91	Pressure [Barg]:	4 Temp. [C]: -11 Dew Point [C]: N/A
FPCR21	Fluid	CO2 Proces Cooling Return - 20C
35	Pressure [Barg]:	4 Temp. [C]: -20 Dew Point [C]: N/A

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P-Engineering Pipe Specification Overview

Cooling I

PN10

PN: PN10 Operation Data [P] 8 [T] 50

Description General Cooling 35% Glycol

FCCF06 Fluid Water/Glycole 35% Mix forCentral Cooling Forward 10 Barg

Pressure [Barg]: **10** Temp. [C]: **6** Dew Point [C]: **N/A**

67

FCCF10 Fluid Water/Glycole 35% Mix forCentral Cooling Forward 10 Barg

Pressure [Barg]: **10** Temp. [C]: **10** Dew Point [C]: **N/A**

69

FCCR12 Fluid Water/Glycole 35% Mix forCentral Cooling Return 10 Barg

Pressure [Barg]: **10** Temp. [C]: **12** Dew Point [C]: **N/A**

68

FCCR16 Fluid Water/Glycole 35% Mix forCentral Cooling Return 10 Barg

Pressure [Barg]: **10** Temp. [C]: **16** Dew Point [C]: **N/A**

70

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P-Engineering Pipe Specification Overview

Cooling II

PN16

PN: PN16 Operation Data [P] 12 [T] 50

Description General Cooling 35% Glycol

FCCF06	Fluid	Water/Glycole 35% Mix forCentral	Cooling Forward 10 Barg
67	Pressure [Barg]:	10	Temp. [C]: 6 Dew Point [C]: N/A
FCCF07	Fluid	Water/Glycole 35% Mix forCentral	Cooling Forward 16 Barg
42	Pressure [Barg]:	16	Temp. [C]: 6 Dew Point [C]: N/A
FCCF11	Fluid	Water/Glycole 35% Mix for Central	Cooling Forward 16 Barg
3	Pressure [Barg]:	16	Temp. [C]: 10 Dew Point [C]: N/A
FCCR12	Fluid	Water/Glycole 35% Mix forCentral	Cooling Return 10 Barg
68	Pressure [Barg]:	10	Temp. [C]: 12 Dew Point [C]: N/A
FCCR13	Fluid	Water/Glycole 35% Mix for Central	Cooling Return 16 Barg
45	Pressure [Barg]:	16	Temp. [C]: 12 Dew Point [C]: N/A
FCCR17	Fluid	Water/Glycole 35% Mix for Central	Cooling Return 16 Barg
4	Pressure [Barg]:	16	Temp. [C]: 16 Dew Point [C]: N/A

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P-Engineering Pipe Specification Overview

Cooling III

PN25

PN: PN25 Operation Data [P] 25 [T] 50

Description General Cooling 35% Glycol

FCCF06 Fluid Water/Glycole 35% Mix for Central Cooling Forward 10 Barg

Pressure [Barg]: **10** Temp. [C]: **6** Dew Point [C]: **N/A**

67

FCCF07 Fluid Water/Glycole 35% Mix for Central Cooling Forward 16 Barg

Pressure [Barg]: **16** Temp. [C]: **6** Dew Point [C]: **N/A**

42

FCCF08 Fluid Water/Glycole 35% Mix for Central Cooling Forward 25 Barg

Pressure [Barg]: **25** Temp. [C]: **6** Dew Point [C]: **N/A**

43

FCCF12 Fluid Water/Glycole 35% Mix for Central Cooling Forward 25 Barg

Pressure [Barg]: **25** Temp. [C]: **10** Dew Point [C]: **N/A**

40

FCCF13 Fluid Water/Glycole 35% Mix for Central Cooling Forward 40 Barg

Pressure [Barg]: **40** Temp. [C]: **10** Dew Point [C]: **N/A**

41

FCCR13 Fluid Water/Glycole 35% Mix for Central Cooling Return 16 Barg

Pressure [Barg]: **16** Temp. [C]: **12** Dew Point [C]: **N/A**

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P-Engineering Pipe Specification Overview

FCCR14	Fluid	Water/Glycole 35% Mix for Central Cooling Return 25 Barg
46	Pressure [Barg]:	25 Temp. [C]: 12 Dew Point [C]: N/A
FCCR16	Fluid	Water/Glycole 35% Mix for Central Cooling Return 10 Barg
70	Pressure [Barg]:	10 Temp. [C]: 16 Dew Point [C]: N/A
FCCR17	Fluid	Water/Glycole 35% Mix for Central Cooling Return 16 Barg
4	Pressure [Barg]:	16 Temp. [C]: 16 Dew Point [C]: N/A
FCCR18	Fluid	Water/Glycole 35% Mix for Central Cooling Return 25 Barg
38	Pressure [Barg]:	25 Temp. [C]: 16 Dew Point [C]: N/A

P-Engineering Pipe Specification Overview

Cooling IV

PN40

PN: PN40 Operation Data [P] 40 [T] 50

Description General Cooling 35% Glycol

FCCF09	Fluid	Water/Glycole 35% Mix for Central Cooling Forward 40 Barg
44	Pressure [Barg]:	40 Temp. [C]: 6 Dew Point [C]: N/A
FCCF13	Fluid	Water/Glycole 35% Mix for Central Cooling Forward 40 Barg
41	Pressure [Barg]:	40 Temp. [C]: 10 Dew Point [C]: N/A
FCCR13	Fluid	Water/Glycole 35% Mix for Central Cooling Return 16 Barg
45	Pressure [Barg]:	16 Temp. [C]: 12 Dew Point [C]: N/A
FCCR15	Fluid	Water/Glycole 35% Mix for Central Cooling Return 40 Barg
47	Pressure [Barg]:	40 Temp. [C]: 12 Dew Point [C]: N/A
FCCR18	Fluid	Water/Glycole 35% Mix for Central Cooling Return 25 Barg
38	Pressure [Barg]:	25 Temp. [C]: 16 Dew Point [C]: N/A
FCCR19	Fluid	Water/Glycole 35% Mix for Central Cooling Return 40 Barg
39	Pressure [Barg]:	40 Temp. [C]: 16 Dew Point [C]: N/A

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P-Engineering Pipe Specification Overview

Cooling Marine LNG I

PN10

PN: PN10 Operation Data [P] 6 [T] -180

Description Glycol for LNG etc.

FCLG08

Fluid Glycole for Cooling of Liquified Gas 8 Barg

Pressure [Barg]: **8** Temp. [C]: **-180** Dew Point [C]: **N/A**

92

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P-Engineering Pipe Specification Overview

Cooling Marine LNG II

PN16

PN: PN16 Operation Data [P] 12 [T] -180

Description Glycol for LNG Cooling etc.

FCLG08	Fluid	Glycole for Cooling of Liquefied Gas 8 Barg
	Pressure [Barg]:	8 Temp. [C]: -180 Dew Point [C]: N/A
92		
FCLG12	Fluid	Glycole for Cooling of Liquefied Gas 14 Barg
	Pressure [Barg]:	14 Temp. [C]: -180 Dew Point [C]: N/A
93		

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P-Engineering Pipe Specification Overview

Cooling Marine LNG III

PN25

PN: PN25 Operation Data [P] 20 [T] -180

Description Glycol for LNG Cooling etc.

FCLG08	Fluid	Glycole for Cooling of Liquefied Gas 8 Barg		
	Pressure [Barg]:	8	Temp. [C]: -180	Dew Point [C]: N/A

92

FCLG12	Fluid	Glycole for Cooling of Liquefied Gas 14 Barg		
	Pressure [Barg]:	14	Temp. [C]: -180	Dew Point [C]: N/A

93

FCLG22	Fluid	Glycole for Cooling of Liquefied Gas 22 Barg		
	Pressure [Barg]:	14	Temp. [C]: -180	Dew Point [C]: N/A

94

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P-Engineering Pipe Specification Overview

Cooling Onshore LNG I

PN10

PN: PN10 Operation Data [P] 6 [T] -180

Description Glycol for LNG etc.

FCLG08

Fluid Glycole for Cooling of Liquified Gas 8 Barg

Pressure [Barg]: **8** Temp. [C]: **-180** Dew Point [C]: **N/A**

92



P-Engineering Pipe Specification Overview

Cooling Onshore LNG II

PN16

PN: PN16 Operation Data [P] 12 [T] -180

Description Glycol for LNG Cooling etc.

FCLG08	Fluid	Glycole for Cooling of Liquefied Gas 8 Barg
92	Pressure [Barg]:	8 Temp. [C]: -180 Dew Point [C]: N/A
FCLG12	Fluid	Glycole for Cooling of Liquefied Gas 14 Barg
93	Pressure [Barg]:	14 Temp. [C]: -180 Dew Point [C]: N/A

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P-Engineering Pipe Specification Overview

Cooling Onshore LNG III

PN25

PN: PN25 Operation Data [P] 20 [T] -180

Description Glycol for LNG Cooling etc.

FCLG08	Fluid	Glycole for Cooling of Liquefied Gas 8 Barg
92	Pressure [Barg]:	8 Temp. [C]: -180 Dew Point [C]: N/A

FCLG12	Fluid	Glycole for Cooling of Liquefied Gas 14 Barg
93	Pressure [Barg]:	14 Temp. [C]: -180 Dew Point [C]: N/A

FCLG22	Fluid	Glycole for Cooling of Liquefied Gas 22 Barg
94	Pressure [Barg]:	14 Temp. [C]: -180 Dew Point [C]: N/A

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P-Engineering Pipe Specification Overview

Ethanol I PN10

PN: PN10 Operation Data [P] 6 [T] 50

Description Ethanol Solvent %



P-Engineering Pipe Specification Overview

Flue Gas I

PN00

PN: PN00 Operation Data [P] 0 [T] 300
Description Flue Gas



P-Engineering Pipe Specification Overview

Flue Gas II PN00

PN: PN00 Operation Data [P] 0 [T] 600

Description Flue Gas



P-Engineering Pipe Specification Overview

General Process Ixs

PN320

PN: PN320 Operation Data [P] 200 [T] 320

Description Water Based Liquid

FSPF140 Fluid Special Process Fluid for e.g. SC processes 140 Barg

Pressure [Barg]: **140** Temp. [C]: **300** Dew Point [C]: **N/A**

95

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P-Engineering Pipe Specification Overview

General Process VII

PN160

PN: PN160 Operation Data [P] 200 [T] 160

Description Water Based Liquid

FSPF140	Fluid	Special Process Fluid for e.g. SC processes 140 Barg
	Pressure [Barg]:	140 Temp. [C]: 300 Dew Point [C]: N/A
95		
FSPF220	Fluid	Special Process Fluid for e.g. SC processes 140 Barg
	Pressure [Barg]:	220 Temp. [C]: 300 Dew Point [C]: N/A
96		

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P-Engineering Pipe Specification Overview

General Process VII

PN250

PN: PN250 Operation Data [P] 200 [T] 250

Description Water Based Liquid

FSPF140	Fluid	Special Process Fluid for e.g. SC processes 140 Barg
	Pressure [Barg]:	140 Temp. [C]: 300 Dew Point [C]: N/A
95		
FSPF220	Fluid	Special Process Fluid for e.g. SC processes 140 Barg
	Pressure [Barg]:	220 Temp. [C]: 300 Dew Point [C]: N/A
96		
FSPF300	Fluid	Special Process Fluid for e.g. SC processes 140 Barg
	Pressure [Barg]:	300 Temp. [C]: 300 Dew Point [C]: N/A
97		

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P-Engineering Pipe Specification Overview

Heating Central I

PN10

PN: PN10 Operation Data [P] 8 [T] 100

Description General Heating Systems

FCFF30 Fluid Heating Central Floor Forward 5 Barg
 Pressure [Barg]: **5** Temp. [C]: **30** Dew Point [C]: **N/A**

71

FCFR20 Fluid Heating Central Floor Return 5 Barg
 Pressure [Barg]: **5** Temp. [C]: **20** Dew Point [C]: **N/A**

72

FCHF55 Fluid Heating Central Forward 8 Barg Low Temp. System
 Pressure [Barg]: **8** Temp. [C]: **55** Dew Point [C]: **N/A**

73

FCHR30 Fluid Heating Central Return 8 Barg Low Temp. System
 Pressure [Barg]: **8** Temp. [C]: **30** Dew Point [C]: **N/A**

74

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P-Engineering Pipe Specification Overview

Heating Central II

PN16

PN: PN16 Operation Data [P] 14 [T] 100

Description General Heating Systems

FCHF55	Fluid	Heating Central Forward 8 Barg Low Temp. System
73	Pressure [Barg]:	8 Temp. [C]: 55 Dew Point [C]: N/A
FCHF70	Fluid	Heating Central Forward 10 Barg
1	Pressure [Barg]:	10 Temp. [C]: 70 Dew Point [C]: N/A
FCHR30	Fluid	Heating Central Return 8 Barg Low Temp. System
74	Pressure [Barg]:	8 Temp. [C]: 30 Dew Point [C]: N/A
FCHR35	Fluid	Heating Central Return 10 Barg
2	Pressure [Barg]:	10 Temp. [C]: 35 Dew Point [C]: N/A

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P-Engineering Pipe Specification Overview

Heating Central III

PN25

PN: PN25 Operation Data [P] 22 [T] 100

Description General Heating Systems

98	FCHF71	Fluid	Heating Central Forward 22 Barg High Rise Building		
		Pressure [Barg]:	22	Temp. [C]: 70	Dew Point [C]: N/A
99	FCHR31	Fluid	Heating Central Forward 22 Barg High Rise Building		
		Pressure [Barg]:	22	Temp. [C]: 30	Dew Point [C]: N/A

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P-Engineering Pipe Specification Overview

Heating Central IV

PN40

PN: PN40 Operation Data [P] 36 [T] 100

Description General Heating Systems

FCHF71 Fluid Heating Central Forward 22 Barg High Rise Building
 Pressure [Barg]: **22** Temp. [C]: **70** Dew Point [C]: **N/A**

98

FCHF72 Fluid Heating Central Forward 38 Barg High Rise Building
 Pressure [Barg]: **38** Temp. [C]: **70** Dew Point [C]: **N/A**

100

FCHR31 Fluid Heating Central Forward 22 Barg High Rise Building
 Pressure [Barg]: **22** Temp. [C]: **30** Dew Point [C]: **N/A**

99

FCHR32 Fluid Heating Central Forward 38 Barg High Rise Building
 Pressure [Barg]: **38** Temp. [C]: **30** Dew Point [C]: **N/A**

101

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P-Engineering Pipe Specification Overview

Heating District

PN16

PN: PN16 Operation Data [P] 13 [T] 120

Description District Heating

FDHF99	Fluid	Water for Discript Heating Forward
20	Pressure [Barg]:	12 Temp. [C]: 100 Dew Point [C]: N/A
FDHR35	Fluid	Water for Discript Heating Return
21	Pressure [Barg]:	12 Temp. [C]: 34 Dew Point [C]: N/A

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P-Engineering Pipe Specification Overview

Heating Floor

PN06

PN: PN06 Operation Data [P] 5 [T] 50

Description General Floor Heating system

71	FCFF30	Fluid	Heating Central Floor Forward 5 Barg		
		Pressure [Barg]:	5	Temp. [C]: 30	Dew Point [C]: N/A
72	FCFR20	Fluid	Heating Central Floor Return 5 Barg		
		Pressure [Barg]:	5	Temp. [C]: 20	Dew Point [C]: N/A

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P-Engineering Pipe Specification Overview

LNG I

PN10

PN: PN10 Operation Data [P] 6 [T] -180

Description Liquefied Natrural Gas

FLNG06

Fluid Natural Gas Liquefied 6 Barg

Pressure [Barg]: **6** Temp. [C]: **-180** Dew Point [C]: **N/A**

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P-Engineering Pipe Specification Overview

LNG II

PN16

PN: PN16 Operation Data [P] 12 [T] -180

Description Liquefied Natrural Gas

FLNG06	Fluid	Natrural Gas Liquefied 6 Barg
83	Pressure [Barg]:	6 Temp. [C]: -180 Dew Point [C]: N/A
FLNG10	Fluid	Natrural Gas Liquefied 10 Barg
84	Pressure [Barg]:	10 Temp. [C]: -180 Dew Point [C]: N/A

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P-Engineering Pipe Specification Overview

LNG III

PN25

PN: PN25 Operation Data [P] 20 [T] -180

Description Liquefied Natrural Gas

FLNG06	Fluid	Natrural Gas Liquefied 6 Barg
83	Pressure [Barg]:	6 Temp. [C]: -180 Dew Point [C]: N/A
FLNG10	Fluid	Natrural Gas Liquefied 10 Barg
84	Pressure [Barg]:	10 Temp. [C]: -180 Dew Point [C]: N/A
FLNG18	Fluid	Natrural Gas Liquefied 18 Barg
85	Pressure [Barg]:	18 Temp. [C]: -180 Dew Point [C]: N/A

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P-Engineering Pipe Specification Overview

Lye Industry, Gen, **PN10**

PN: PN10 Operation Data [P] 8 [T] 50

Description Lye General Industrial Grade



P-Engineering Pipe Specification Overview

Lye Pharma, General

PN10

PN: PN10 Operation Data [P] 8 [T] 50

Description Acid General Pharma Grade



P-Engineering Pipe Specification Overview

Methanol I PN10

PN: PN10 Operation Data [P] 6 [T] 30

Description Methanol Solvent %



P-Engineering Pipe Specification Overview

N-Gas I

PN06

PN: PN06 Operation Data [P] 1 [T] 50

Description N-Gas Distribution

GNG01

Gas Natural Gas 1.2 barg

Pressure [Barg]: **1,2** Temp. [C]: **20** Dew Point [C]: **N/A**

16

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P-Engineering Pipe Specification Overview

N-Gas II

PN10

PN: PN10 Operation Data [P] 6 [T] 50

Description N-Gas Distribution

GNG06

Gas Natrual Gas Saturated 6 barg

Pressure [Barg]: **6** Temp. [C]: **20** Dew Point [C]: **N/A**

15

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P-Engineering Pipe Specification Overview

N-Gas III PN16

PN: PN16 Operation Data [P] 12 [T] 50

Description N-Gas Distribution



P-Engineering Pipe Specification Overview

N-Gas IV

PN25

PN: PN25 Operation Data [P] 20 [T] 50

Description N-Gas Distribution



P-Engineering Pipe Specification Overview

N-Gas VII **PN100**

PN: PN100 Operation Data [P] 80 [T] 50

Description N-Gas Distribution Main



P-Engineering Pipe Specification Overview

Oil Diesel I

PN06

PN: PN06 Operation Data [P] 4 [T] 50

Description Diesel Oil

FDOL04	Fluid	Diesel Oil 4 barg
23	Pressure [Barg]:	4 Temp. [C]: 20 Dew Point [C]: N/A

FFOL04	Fluid	Fuel Oil 4 barg
24	Pressure [Barg]:	4 Temp. [C]: 20 Dew Point [C]: N/A

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P-Engineering Pipe Specification Overview

Oil Diesel II PN10

PN: PN10 Operation Data [P] 8 [T] 50

Description Diesel Oil



P-Engineering Pipe Specification Overview

Oil Hydraulic

PN300

PN: PN300 Operation Data [P] 300 [T] 100

Description Hydraulic Oil for Motion System

FHyO90 Fluid Hydraulic Oil - General Hydraulic Oil for Fluid Mechanical System

Pressure [Barg]: **100** Temp. [C]: **20** Dew Point [C]: **N/A**

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P-Engineering Pipe Specification Overview

Sewage, Black

N/A

PN: N/A Operation Data [P] 0 [T] 20

Description Sewage Toilet etc.

FWWB00 Fluid Waste Water Black

Pressure [Barg]: **0** Temp. [C]: **15** Dew Point [C]: **N/A**

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P-Engineering Pipe Specification Overview

Sewage, Fatty

N/A

PN: N/A Operation Data [P] 0 [T] 50

Description Sewage from Kitchen

FWWF00

Fluid Waste Water Fatty

Pressure [Barg]: **0** Temp. [C]: **15** Dew Point [C]: **N/A**

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P-Engineering Pipe Specification Overview

Sewage, Gray

N/A

PN: N/A Operation Data [P] 0 [T] 20

Description Sewage general

FWWG00 Fluid Waste Water Gray
Pressure [Barg]: **0** Temp. [C]: **15** Dew Point [C]: **N/A**

60



P-Engineering Pipe Specification Overview

Sewage, Oily

N/A

PN: N/A Operation Data [P] 0 [T] 20

Description Sewage Parking etc.

FWW000 Fluid Waste Water Oily
Pressure [Barg]: **0** Temp. [C]: **15** Dew Point [C]: **N/A**

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P-Engineering Pipe Specification Overview

Sewage; Rain Water

N/A

PN: N/A Operation Data [P] 0 [T] 0

Description Rain Water, Siphon system

FWWR00

Fluid Waste Water Rain

Pressure [Barg]: **0** Temp. [C]: **5** Dew Point [C]: **N/A**

86



P-Engineering Pipe Specification Overview

Sewage; Rain Water

N/A

PN: N/A Operation Data [P] 0 [T] 0

Description Rain Water, Gravity

FWWR00

Fluid Waste Water Rain

Pressure [Barg]: **0** Temp. [C]: **5** Dew Point [C]: **N/A**

86



P-Engineering Pipe Specification Overview

Slurry I PN10

PN: PN10 Operation Data [P] 8 [T] 50

Description Water Slurry with partickles



P-Engineering Pipe Specification Overview

Slurry II

PN16

PN: PN16 Operation Data [P] 8 [T] 50

Description Water Slurry with Particles



P-Engineering Pipe Specification Overview

Sprinkler I

PN10

PN: PN10 Operation Data [P] 8 [T] 25

Description General Sprinkler Installation

FWRT08

Fluid Water Raw Tap 8 Barg

Pressure [Barg]: **8** Temp. [C]: **15** Dew Point [C]: **N/A**

6



P-Engineering Pipe Specification Overview

Sprinkler II

PN16

PN: PN16 Operation Data [P] 14 [T] 25

Description General Sprinkler Installation

FWTT16 Fluid Water Technical 16 Barg
Pressure [Barg]: **16** Temp. [C]: **15** Dew Point [C]: **N/A**

58

P-Engineering Pipe Specification Overview

Sprinkler III

PN25

PN: PN25 Operation Data [P] 23 [T] 25

Description General Sprinkler Installation

FWTT06	Fluid	Water Technical 6 Barg			
	Pressure [Barg]:	6	Temp. [C]:	15	Dew Point [C]: N/A
7					
FWTT08	Fluid	Water Technical 8 Barg			
	Pressure [Barg]:	8	Temp. [C]:	15	Dew Point [C]: N/A
59					
FWTT08	Fluid	Water Technical 8 Barg			
	Pressure [Barg]:	8	Temp. [C]:	15	Dew Point [C]: N/A
59					
FWTT10	Fluid	Water Technical 10 Barg			
	Pressure [Barg]:	10	Temp. [C]:	15	Dew Point [C]: N/A
56					
FWTT12	Fluid	Water Technical 12 Barg			
	Pressure [Barg]:	12	Temp. [C]:	15	Dew Point [C]: N/A
57					
FWTT22	Fluid	Water Technical 25 Barg			
	Pressure [Barg]:	22	Temp. [C]:	15	Dew Point [C]: N/A
81					

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P-Engineering Pipe Specification Overview

Steam Clean I

PN10

PN: PN10 Operation Data [P] 6 [T] 165

Description Pharma Steam System

VSTC05 Vapor Steam Clean Saturated 6 Barg

Pressure [Barg]: **6** Temp. [C]: **150** Dew Point [C]: **N/A**

75



P-Engineering Pipe Specification Overview

Steam Clean II

PN16

PN: PN16 Operation Data [P] 10 [T] 184

Description Pharma Steam System

VSTC05	Vapor	Steam Clean Saturated 6 Barg
75	Pressure [Barg]: 6	Temp. [C]: 150 Dew Point [C]: N/A
VSTC08	Vapor	Steam Clean Saturated 10 barg
12	Pressure [Barg]: 10	Temp. [C]: 188 Dew Point [C]: N/A

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P-Engineering Pipe Specification Overview

Steam Condensate I

N/A

PN: N/A Operation Data [P] 1 [T] 100

Description Pressureless Condensate from Steam

FCRS00

Fluid Condensate Raw Steam Pressure Less

Pressure [Barg]: **0** Temp. [C]: **100** Dew Point [C]: **N/A**

30



P-Engineering Pipe Specification Overview

Steam Condensate II

PN10

PN: PN10 Operation Data [P] 8 [T] 100

Description Pressurized Condensate from Steam

31	FCRS06	Fluid	Condensate Raw Steam 6 Barg
		Pressure [Barg]:	6 Temp. [C]: 100 Dew Point [C]: N/A
32	FCRS08	Fluid	Condensate Raw Steam 8 Barg
		Pressure [Barg]:	8 Temp. [C]: 100 Dew Point [C]: N/A

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P-Engineering Pipe Specification Overview

Steam Condensate III

PN16

PN: PN16 Operation Data [P] 12 [T] 100

Description Pressurized Condensate from Steam

FCRS06	Fluid	Condensate Raw Steam 6 Barg
	Pressure [Barg]:	6 Temp. [C]: 100 Dew Point [C]: N/A
31		

FCRS08	Fluid	Condensate Raw Steam 8 Barg
	Pressure [Barg]:	8 Temp. [C]: 100 Dew Point [C]: N/A
32		

FCRS10	Fluid	Condensate Raw Steam 10 Barg
	Pressure [Barg]:	10 Temp. [C]: 100 Dew Point [C]: N/A
33		

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P-Engineering Pipe Specification Overview

Steam Raw I PN10

PN: PN10 Operation Data [P] 6 [T] 165

Description Industrial Steam System



P-Engineering Pipe Specification Overview

Steam Raw II

PN16

PN: PN16 Operation Data [P] 10 [T] 184

Description Industrial Steam System

VSRS08	Vapor	Steam Raw Saturated 8 barg
10	Pressure [Barg]:	8 Temp. [C]: 178 Dew Point [C]: N/A

VSRS10	Vapor	Steam Raw Saturated 10 barg
11	Pressure [Barg]:	10 Temp. [C]: 188 Dew Point [C]: N/A

P-Engineering Pipe Specification Overview

Steam Raw III

PN25

PN: PN25 Operation Data [P] 18 [T] 210

Description Industrial Steam System

VSR08	Vapor	Steam Raw Saturated 8 barg
	Pressure [Barg]:	8 Temp. [C]: 178 Dew Point [C]: N/A
10		
VSR10	Vapor	Steam Raw Saturated 10 barg
	Pressure [Barg]:	10 Temp. [C]: 188 Dew Point [C]: N/A
11		
VSR18	Vapor	Steam Raw Saturated 18 Barg
	Pressure [Barg]:	18 Temp. [C]: 200 Dew Point [C]: N/A
27		
VSR20	Vapor	Steam Raw Saturated 20 Barg
	Pressure [Barg]:	20 Temp. [C]: 210 Dew Point [C]: N/A
28		
VSR22	Vapor	Steam Raw Saturated 22 Barg
	Pressure [Barg]:	22 Temp. [C]: 220 Dew Point [C]: N/A
29		
VSSR14	Vapor	Steam Raw Superheated 14 Barg
	Pressure [Barg]:	14 Temp. [C]: 360 Dew Point [C]: N/A
89		

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P-Engineering Pipe Specification Overview

Steam Raw IV

PN40

PN: PN40 Operation Data [P] 30 [T] 253

Description Industrial Steam System

VSR08	Vapor	Steam Raw Saturated 8 barg
10	Pressure [Barg]:	8 Temp. [C]: 178 Dew Point [C]: N/A
VSR10	Vapor	Steam Raw Saturated 10 barg
11	Pressure [Barg]:	10 Temp. [C]: 188 Dew Point [C]: N/A
VSR18	Vapor	Steam Raw Saturated 18 Barg
27	Pressure [Barg]:	18 Temp. [C]: 200 Dew Point [C]: N/A
VSR20	Vapor	Steam Raw Saturated 20 Barg
28	Pressure [Barg]:	20 Temp. [C]: 210 Dew Point [C]: N/A
VSR22	Vapor	Steam Raw Saturated 22 Barg
29	Pressure [Barg]:	22 Temp. [C]: 220 Dew Point [C]: N/A
VSSR14	Vapor	Steam Raw Superheated 14 Barg
89	Pressure [Barg]:	14 Temp. [C]: 360 Dew Point [C]: N/A

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P-Engineering Pipe Specification Overview

Steam Raw V

PN64

PN: PN64 Operation Data [P] 50 [T] 265

Description Industrial Steam System

VSSR55	Vapor	Steam Raw Superheated 55 Barg
	Pressure [Barg]:	55 Temp. [C]: 480 Dew Point [C]: N/A

88



P-Engineering Pipe Specification Overview

Water Osmosis

PN10

PN: PN10 Operation Data [P] 8 [T] 40

Description Osmosis Water derived for OdH Treatet Wate

FWTO06	Fluid	Water Technical Osmosis 6 Barg		
	Pressure [Barg]:	6	Temp. [C]:	20
			Dew Point [C]:	N/A

22



P-Engineering Pipe Specification Overview

Water Osmosis

PN16

PN: PN16 Operation Data [P] 14 [T] 50

Description Osmosis Water derived for OdH Treatet Wate

FWTO06	Fluid	Water Technical Osmosis 6 Barg
	Pressure [Barg]:	6 Temp. [C]: 20 Dew Point [C]: N/A

22



P-Engineering Pipe Specification Overview

Water Sea I

PN10

PN: PN10 Operation Data [P] 8 [T] 50

Description Seawater Salinity 3.8%

FWSF01	Fluid	Water Sea Forward Upstream Pump 0 Barg
76	Pressure [Barg]:	1 Temp. [C]: 8 Dew Point [C]: N/A
FWSF06	Fluid	Water Sea Forward Downsteam Pump 6 Barg
77	Pressure [Barg]:	6 Temp. [C]: 9 Dew Point [C]: N/A
FWSR06	Fluid	Water Sea Return 6 Barg
78	Pressure [Barg]:	6 Temp. [C]: 40 Dew Point [C]: N/A

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P-Engineering Pipe Specification Overview

Water Sea II

PN16

PN: PN16 Operation Data [P] 12 [T] 50

Description Seawater Salinity 3.8%

FWSF01	Fluid	Water Sea Forward Upstream Pump 0 Barg	Pressure [Barg]: 1	Temp. [C]: 8	Dew Point [C]: N/A
76					
FWSF06	Fluid	Water Sea Forward Downsteam Pump 6 Barg	Pressure [Barg]: 6	Temp. [C]: 9	Dew Point [C]: N/A
77					
FWSF10	Fluid	Water Sea Forward Downsteam Pump 10 Barg	Pressure [Barg]: 10	Temp. [C]: 9	Dew Point [C]: N/A
80					
FWSR06	Fluid	Water Sea Return 6 Barg	Pressure [Barg]: 6	Temp. [C]: 40	Dew Point [C]: N/A
78					
FWSR10	Fluid	Water Sea Return 10 Barg	Pressure [Barg]: 10	Temp. [C]: 40	Dew Point [C]: N/A
79					

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P-Engineering Pipe Specification Overview

Water Tap Cold I

PN10

PN: PN10 Operation Data [P] 8 [T] 40

Description General Tap Water

FWRT06	Fluid	Water Raw Tap 6 Barg			
5	Pressure [Barg]:	6	Temp. [C]:	15	Dew Point [C]: N/A
FWRT08	Fluid	Water Raw Tap 8 Barg			
6	Pressure [Barg]:	8	Temp. [C]:	15	Dew Point [C]: N/A
FWTO06	Fluid	Water Technical Osmosis 6 Barg			
22	Pressure [Barg]:	6	Temp. [C]:	20	Dew Point [C]: N/A
FWTT06	Fluid	Water Technical 6 Barg			
7	Pressure [Barg]:	6	Temp. [C]:	15	Dew Point [C]: N/A
FWTT08	Fluid	Water Technical 8 Barg			
59	Pressure [Barg]:	8	Temp. [C]:	15	Dew Point [C]: N/A

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P-Engineering Pipe Specification Overview

Water Tap Cold II

PN16

PN: PN16 Operation Data [P] 14 [T] 40

Description General Tap Water

FWRT16	Fluid	Water Raw Tap 16 Barg			
51	Pressure [Barg]:	16	Temp. [C]:	15	Dew Point [C]: N/A
FWTO06	Fluid	Water Technical Osmosis 6 Barg			
22	Pressure [Barg]:	6	Temp. [C]:	20	Dew Point [C]: N/A
FWTR10	Fluid	Water Raw Tap 10 Barg			
49	Pressure [Barg]:	10	Temp. [C]:	15	Dew Point [C]: N/A
FWTR12	Fluid	Water Raw Tap 12 Barg			
50	Pressure [Barg]:	12	Temp. [C]:	15	Dew Point [C]: N/A
FWTR12	Fluid	Water Raw Tap 12 Barg			
50	Pressure [Barg]:	12	Temp. [C]:	15	Dew Point [C]: N/A
FWTT10	Fluid	Water Technical 10 Barg			
56	Pressure [Barg]:	10	Temp. [C]:	15	Dew Point [C]: N/A

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P-Engineering Pipe Specification Overview

FWTT12	Fluid	Water Technical 12 Barg
57	Pressure [Barg]: 12	Temp. [C]: 15 Dew Point [C]: N/A
FWTT16	Fluid	Water Technical 16 Barg
58	Pressure [Barg]: 16	Temp. [C]: 15 Dew Point [C]: N/A

P-Engineering Pipe Specification Overview

Water Tap Cold III

PN25

PN: PN25 Operation Data [P] 23 [T] 40

Description General Tap Water

FWRT08	Fluid	Water Raw Tap 8 Barg
	Pressure [Barg]:	8 Temp. [C]: 15 Dew Point [C]: N/A

6

FWTO06	Fluid	Water Technical Osmosis 6 Barg
	Pressure [Barg]:	6 Temp. [C]: 20 Dew Point [C]: N/A

22

FWTR10	Fluid	Water Raw Tap 10 Barg
	Pressure [Barg]:	10 Temp. [C]: 15 Dew Point [C]: N/A

49

FWTR12	Fluid	Water Raw Tap 12 Barg
	Pressure [Barg]:	12 Temp. [C]: 15 Dew Point [C]: N/A

50

FWTR20	Fluid	Water Raw Tap 20 Barg
	Pressure [Barg]:	20 Temp. [C]: 15 Dew Point [C]: N/A

52

FWTR24	Fluid	Water Raw Tap 24 Barg
	Pressure [Barg]:	24 Temp. [C]: 15 Dew Point [C]: N/A

53

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P-Engineering Pipe Specification Overview

FWTT08	Fluid	Water Technical 8 Barg			
59	Pressure [Barg]:	8	Temp. [C]:	15	Dew Point [C]: N/A
FWTT10	Fluid	Water Technical 10 Barg			
56	Pressure [Barg]:	10	Temp. [C]:	15	Dew Point [C]: N/A
FWTT12	Fluid	Water Technical 12 Barg			
57	Pressure [Barg]:	12	Temp. [C]:	15	Dew Point [C]: N/A
FWTT16	Fluid	Water Technical 16 Barg			
58	Pressure [Barg]:	16	Temp. [C]:	15	Dew Point [C]: N/A

P-Engineering Pipe Specification Overview

Water Tap Cold IV

PN10

PN: PN10 Operation Data [P] 40 [T] 50

Description General Tap Water

FWTO06	Fluid	Water Technical Osmosis 6 Barg
22	Pressure [Barg]:	6 Temp. [C]: 20 Dew Point [C]: N/A

FWTO06	Fluid	Water Technical Osmosis 6 Barg
22	Pressure [Barg]:	6 Temp. [C]: 20 Dew Point [C]: N/A

FWTR10	Fluid	Water Raw Tap 10 Barg
49	Pressure [Barg]:	10 Temp. [C]: 15 Dew Point [C]: N/A

FWTR12	Fluid	Water Raw Tap 12 Barg
50	Pressure [Barg]:	12 Temp. [C]: 15 Dew Point [C]: N/A

FWTR20	Fluid	Water Raw Tap 20 Barg
52	Pressure [Barg]:	20 Temp. [C]: 15 Dew Point [C]: N/A

FWTR20	Fluid	Water Raw Tap 20 Barg
52	Pressure [Barg]:	20 Temp. [C]: 15 Dew Point [C]: N/A

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P-Engineering Pipe Specification Overview

FWTR24	Fluid	Water Raw Tap 24 Barg			
53	Pressure [Barg]:	24	Temp. [C]:	15	Dew Point [C]: N/A
FWTR30	Fluid	Water Raw Tap 30 Barg			
54	Pressure [Barg]:	30	Temp. [C]:	15	Dew Point [C]: N/A
FWTR40	Fluid	Water Raw Tap 40 Barg			
55	Pressure [Barg]:	40	Temp. [C]:	15	Dew Point [C]: N/A
FWTT06	Fluid	Water Technical 6 Barg			
7	Pressure [Barg]:	6	Temp. [C]:	15	Dew Point [C]: N/A
FWTT08	Fluid	Water Technical 8 Barg			
59	Pressure [Barg]:	8	Temp. [C]:	15	Dew Point [C]: N/A
FWTT10	Fluid	Water Technical 10 Barg			
56	Pressure [Barg]:	10	Temp. [C]:	15	Dew Point [C]: N/A
FWTT12	Fluid	Water Technical 12 Barg			
57	Pressure [Barg]:	12	Temp. [C]:	15	Dew Point [C]: N/A

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P-Engineering Pipe Specification Overview

FWTT16	Fluid	Water Technical 16 Barg				
	Pressure [Barg]:	16	Temp. [C]:	15	Dew Point [C]:	N/A
58						



P-Engineering Pipe Specification Overview

Water Tap Hot

PN10

PN: PN10 Operation Data [P] 7 [T] 80

Description General Hot Tap Water

FWHC52	Fluid	Water Technical Hot Circulation
	Pressure [Barg]:	6 Temp. [C]: 52 Dew Point [C]: N/A
9		
FWHF58	Fluid	Water Technical Hot Forward
	Pressure [Barg]:	6 Temp. [C]: 58 Dew Point [C]: N/A
8		

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P-Engineering Pipe Specification Overview

Water Tap Hot PN16

PN: PN16 Operation Data [P] 12 [T] 80

Description General Hot Tap Water



P-Engineering Pipe Specification Overview

Water Tap Hot

PN25

PN: PN25 Operation Data [P] 20 [T] 80

Description General Hot Tap Water



P-Engineering Pipe Specification Overview

Water Technical

PN10

PN: PN10 Operation Data [P] 8 [T] 50

Description Technical Water General

FWTO06	Fluid	Water Technical Osmosis 6 Barg
22	Pressure [Barg]:	6 Temp. [C]: 20 Dew Point [C]: N/A
FWTT06	Fluid	Water Technical 6 Barg
7	Pressure [Barg]:	6 Temp. [C]: 15 Dew Point [C]: N/A
FWTT08	Fluid	Water Technical 8 Barg
59	Pressure [Barg]:	8 Temp. [C]: 15 Dew Point [C]: N/A

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P-Engineering Pipe Specification Overview

Water w. Bio residue PN10

PN: PN10 Operation Data [P] 8 [T] 50
Description Technical Water with Bio Residue / Bactecia