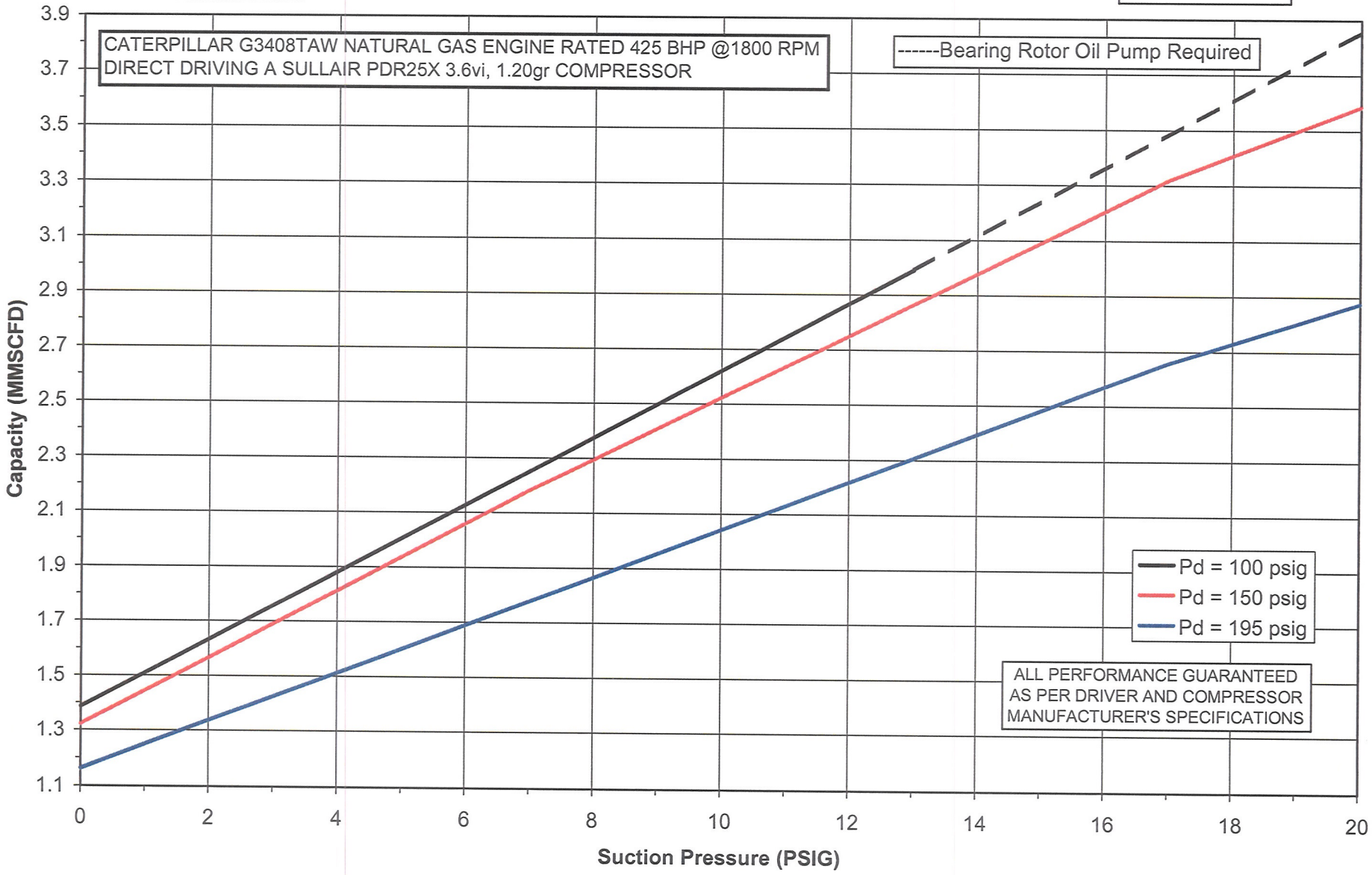
QUATTRO
EXPLORATION AND PRODUCTION LTD.

Quattro
BE-03-204 & BE-03-220

ELEVATION = 2500 FEET
AMBIENT = 95°F

GAS TYPE = SWEET
SG = 0.65 Ts = 60°F



SULLAIR.
Sullair Corporation
3700 East Michigan Blvd
Michigan City, IN 46360

SullGas 6.0.4

Rotary Screw Gas Compressors

Job Description:
Customer Name:

Job/Run Ref No: 03-204/03-220
Customer Ref No:

RESULTS (Rating at Given Conditions)

Capacity Loading	100.0	100.0	%
Volume Flow Predicted	1.386	1.386	mmscfd
Mass Flow Predicted	47.8	47.8	lb/min
Power Required	267.0	267.0	bhp
Torque Required	779.0	779.0	ft-lb
Efficiency, Volumetric	NA	83.7	%
Efficiency, Adiabatic	NA	66.2	%
Oil Flow, Total	53.6	53.6	USgpm
Oil Flow, Brgs & Gears	10.5	10.5	USgpm
Oil Flow, Injection	43.0	43.0	USgpm
Heat Load, Oil Cooler	7,953	7,953	Btu/min
Heat Load, Aftercooler	1,927	1,927	Btu/min

SITE CONDITIONS

Elevation Above Sea Level	2500 feet
Barometric Pressure	13.400 psia

PRESSURES

Suction Flange, Skid	0.00 psig
Suction Loss, Skid	1.00 psi
Suction Flange, Compr	-1.00 psig
Discharge Flange, Compr	103.00 psig
Discharge Loss, Skid	3.00 psi
Discharge Flange, Skid	100.00 psig
Pressure Ratio, Compressor	9.39
Oil Pressure Regulator Set	108.00 psig

COMPRESSOR PDR25X-GD

Rotor Diameter	255.0 mm
Male Rotor L/D	2.22
Volume Ratio Type	Fixed
Internal Volume Ratio (Vi)	3.6
Ideal Volume Ratio	5.87
Internal Gear Ratio	1.20
Compressor Input Speed	1800 rpm CW
Displacement	0.6317 ft³/rev
Male Rotor Tip Speed	28.8 m/s
Maximum Discharge Pressure	175 psig
Minimum Manifold Pressure	79 psig

TEMPERATURES

Ambient Air	95.0 °F
Compressor Suction	60.0 °F
Compressor Discharge	200.0 °F
Aftercooler Outlet	120.0 °F
Compressor Injection Oil	160.0 °F

GAS PROPERTIES (given Specific Gravity)

Specific Gravity	0.650
Mole Weight	18.785
Specific Heat Ratio, Cp/Cv	1.266
Specific Heat, Cp	0.503 Btu/lb/°F
Inlet Compressibility	0.997

DRIVER

Maximum Driver Power	395 bhp
Actual Engine Loading	67.6 %
Actual Driver Speed	1800 rpm
Gearbox Ratio	1.000

COMPRESSOR OIL MINERAL 150

Solubility of Gas in Oil	Low (0%-10% by wt)
Diluted Oil Viscosity	40 cSt
Density	54.268 lb/ft³
Specific Heat, Cp	0.509 Btu/lb/°F

STATUS: Application requires PAA.

NOTICES:

No warranty or guarantee, either implied or expressed, is given on results from this program.

Data and procedures in this program are subject to change by Sullair Corp. without notice.

Accuracy of full-load compressor capacity and power predicted by this program is within +/-5% at the specified operating conditions. Part-load performance is estimated and has no tolerance.

PRODUCT APPLICATION ANALYSIS (PAA) BY SULLAIR:

Sullair has the right to verify all applications and performance estimates prior to order acceptance.

An application will require PAA prior to order acceptance if any Formal Limit is violated but the corresponding PAA Limit is not violated.

Any PAA limit violation precludes both Product Application Analysis and application acceptance by Sullair.

All applications with H2S or CO2 require approval by Sullair Corp. prior to order acceptance.

All engine-driven applications require torsional analysis by the compressor skid packager.

Sullair Corporation
3700 East Michigan Blvd
Michigan City, IN 46360

SullGas 6.0.4

Rotary Screw Gas Compressors

Job Description:
Customer Name:

Job/Run Ref No: 03-204/03-220
Customer Ref No:

RESULTS (Rating at Given Conditions)

Capacity Loading	100.0	100.0	%
Volume Flow Predicted	2.991	2.991	mmscfd
Mass Flow Predicted	103.2	103.2	lb/min
Power Required	308.4	308.4	bhp
Torque Required	899.9	899.9	ft-lb
Efficiency, Volumetric	NA	87.9	%
Efficiency, Adiabatic	NA	77.3	%
Oil Flow, Total	39.5	39.5	USgpm
Oil Flow, Brgs & Gears	9.0	9.0	USgpm
Oil Flow, Injection	30.4	30.4	USgpm
Heat Load, Oil Cooler	5,808	5,808	Btu/min
Heat Load, Aftercooler	4,157	4,157	Btu/min

COMPRESSOR **PDR25X-GD**

Rotor Diameter	255.0 mm
Male Rotor L/D	2.22
Volume Ratio Type	Fixed
Internal Volume Ratio (Vi)	3.6
Ideal Volume Ratio	3.33
Internal Gear Ratio	1.20
Compressor Input Speed	1800 rpm CW
Displacement	0.6317 ft³/rev
Male Rotor Tip Speed	28.8 m/s
Maximum Discharge Pressure	175 psig
Minimum Manifold Pressure	101 psig

DRIVER

Maximum Driver Power	395 bhp
Actual Engine Loading	78.1 %
Actual Driver Speed	1800 rpm
Gearbox Ratio	1.000

COMPRESSOR OIL MINERAL 150

Solubility of Gas in Oil	Low (0%-10% by wt)
Diluted Oil Viscosity	40 cSt
Density	54.268 lb/ft³
Specific Heat, Cp	0.509 Btu/lb/°F

SITE CONDITIONS

Elevation Above Sea Level	2500 feet
Barometric Pressure	13.400 psia

PRESSURES

Suction Flange, Skid	13.00 psig
Suction Loss, Skid	1.00 psi
Suction Flange, Compr	12.00 psig
Discharge Flange, Compr	103.00 psig
Discharge Loss, Skid	3.00 psi
Discharge Flange, Skid	100.00 psig
Pressure Ratio, Compressor	4.58
Pressure Loss, Oil System	8.00 psi

TEMPERATURES

Ambient Air	95.0 °F
Compressor Suction	60.0 °F
Compressor Discharge	200.0 °F
Aftercooler Outlet	120.0 °F
Compressor Injection Oil	160.0 °F

GAS PROPERTIES (given Specific Gravity)

Specific Gravity	0.650
Mole Weight	18.785
Specific Heat Ratio, Cp/Cv	1.266
Specific Heat, Cp	0.503 Btu/lb/°F
Inlet Compressibility	0.995

STATUS: Application requires PAA.

NOTICES:

No warranty or guarantee, either implied or expressed, is given on results from this program.

Data and procedures in this program are subject to change by Sullair Corp. without notice.

Accuracy of full-load compressor capacity and power predicted by this program is within +/-5% at the specified operating conditions. Part-load performance is estimated and has no tolerance.

PRODUCT APPLICATION ANALYSIS (PAA) BY SULLAIR:

Sullair has the right to verify all applications and performance estimates prior to order acceptance.

An application will require PAA prior to order acceptance if any Formal Limit is violated but the corresponding PAA Limit is not violated.

Any PAA limit violation precludes both Product Application Analysis and application acceptance by Sullair.

All applications with H2S or CO2 require approval by Sullair Corp. prior to order acceptance.

All engine-driven applications require torsional analysis by the compressor skid packager.

Sullair Corporation
3700 East Michigan Blvd
Michigan City, IN 46360

SullGas 6.0.4

Rotary Screw Gas Compressors

Job Description:
Customer Name:

Job/Run Ref No: 03-204/03-220
Customer Ref No:

RESULTS (Rating at Given Conditions)

Capacity Loading	100.0	100.0	%
Volume Flow Predicted	3.858	3.858	mmscfd
Mass Flow Predicted	133.1	133.1	lb/min
Power Required	330.8	330.8	bhp
Torque Required	965.1	965.1	ft-lb
Efficiency, Volumetric	NA	88.8	%
Efficiency, Adiabatic	NA	76.0	%
Oil Flow, Total	31.5	31.5	USgpm
Oil Flow, Brgs & Gears	9.5	9.5	USgpm
Oil Flow, Injection	22.0	22.0	USgpm
Heat Load, Oil Cooler	4,645	4,645	Btu/min
Heat Load, Aftercooler	5,362	5,362	Btu/min

COMPRESSOR **PDR25X-GD**

Rotor Diameter	255.0 mm
Male Rotor L/D	2.22
Volume Ratio Type	Fixed
Internal Volume Ratio (Vi)	3.6
Ideal Volume Ratio	2.75
Internal Gear Ratio	1.20
Compressor Input Speed	1800 rpm CW
Displacement	0.6317 ft³/rev
Male Rotor Tip Speed	28.8 m/s
Maximum Discharge Pressure	175 psig
Minimum Manifold Pressure	112 psig

DRIVER

Maximum Driver Power	395 bhp
Actual Engine Loading	83.7 %
Actual Driver Speed	1800 rpm
Gearbox Ratio	1.000

COMPRESSOR OIL MINERAL 150

Solubility of Gas in Oil	Low (0%-10% by wt)
Diluted Oil Viscosity	40 cSt
Density	54.268 lb/ft³
Specific Heat, Cp	0.509 Btu/lb/°F

SITE CONDITIONS

Elevation Above Sea Level	2500 feet
Barometric Pressure	13.400 psia

PRESSURES

Suction Flange, Skid	20.00 psig
Suction Loss, Skid	1.00 psi
Suction Flange, Compr	19.00 psig
Discharge Flange, Compr	103.00 psig
Discharge Loss, Skid	3.00 psi
Discharge Flange, Skid	100.00 psig
Pressure Ratio, Compressor	3.59
Oil Pressure Regulator Set	108.00 psig

TEMPERATURES

Ambient Air	95.0 °F
Compressor Suction	60.0 °F
Compressor Discharge	200.0 °F
Aftercooler Outlet	120.0 °F
Compressor Injection Oil	160.0 °F

GAS PROPERTIES (given Specific Gravity)

Specific Gravity	0.650
Mole Weight	18.785
Specific Heat Ratio, Cp/Cv	1.266
Specific Heat, Cp	0.503 Btu/lb/°F
Inlet Compressibility	0.993

STATUS: Application requires PAA.

NOTICES:

No warranty or guarantee, either implied or expressed, is given on results from this program.

Data and procedures in this program are subject to change by Sullair Corp. without notice.

Accuracy of full-load compressor capacity and power predicted by this program is within +/-5% at the specified operating conditions. Part-load performance is estimated and has no tolerance.

PRODUCT APPLICATION ANALYSIS (PAA) BY SULLAIR:

Sullair has the right to verify all applications and performance estimates prior to order acceptance.

An application will require PAA prior to order acceptance if any Formal Limit is violated but the corresponding PAA Limit is not violated.

Any PAA limit violation precludes both Product Application Analysis and application acceptance by Sullair.

All applications with H2S or CO2 require approval by Sullair Corp. prior to order acceptance.

All engine-driven applications require torsional analysis by the compressor skid packager.

Sullair Corporation
3700 East Michigan Blvd
Michigan City, IN 46360

SullGas 6.0.4

Rotary Screw Gas Compressors

Job Description:
Customer Name:

Job/Run Ref No: 03-204/03-220
Customer Ref No:

RESULTS (Rating at Given Conditions)

Capacity Loading	100.0	100.0	%
Volume Flow Predicted	1.320	1.320	mmscfd
Mass Flow Predicted	45.6	45.6	lb/min
Power Required	351.2	351.2	bhp
Torque Required	1,024.6	1,024.6	ft-lb
Efficiency, Volumetric	NA	79.7	%
Efficiency, Adiabatic	NA	57.9	%
Oil Flow, Total	78.7	78.7	USgpm
Oil Flow, Brgs & Gears	12.0	12.0	USgpm
Oil Flow, Injection	66.7	66.7	USgpm
Heat Load, Oil Cooler	11,684	11,684	Btu/min
Heat Load, Aftercooler	1,835	1,835	Btu/min

COMPRESSOR **PDR25X-GD**

Rotor Diameter	255.0 mm
Male Rotor L/D	2.22
Volume Ratio Type	Fixed
Internal Volume Ratio (Vi)	3.6
Ideal Volume Ratio	7.78
Internal Gear Ratio	1.20
Compressor Input Speed	1800 rpm CW
Displacement	0.6317 ft³/rev
Male Rotor Tip Speed	28.8 m/s
Maximum Discharge Pressure	175 psig
Minimum Manifold Pressure	93 psig

DRIVER

Maximum Driver Power	374 bhp
Actual Engine Loading	93.9 %
Actual Driver Speed	1800 rpm
Gearbox Ratio	1.000

COMPRESSOR OIL MINERAL 150

Solubility of Gas in Oil	Low (0%-10% by wt)
Diluted Oil Viscosity	40 cSt
Density	54.268 lb/ft³
Specific Heat, Cp	0.509 Btu/lb/°F

SITE CONDITIONS

Elevation Above Sea Level	2500 feet
Barometric Pressure	13.400 psia

PRESSURES

Suction Flange, Skid	0.00 psig
Suction Loss, Skid	1.00 psi
Suction Flange, Compr	-1.00 psig
Discharge Flange, Compr	153.00 psig
Discharge Loss, Skid	3.00 psi
Discharge Flange, Skid	150.00 psig
Pressure Ratio, Compressor	13.42
Pressure Loss, Oil System	10.00 psi

TEMPERATURES

Ambient Air	95.0 °F
Compressor Suction	60.0 °F
Compressor Discharge	200.0 °F
Aftercooler Outlet	120.0 °F
Compressor Injection Oil	160.0 °F

GAS PROPERTIES (given Specific Gravity)

Specific Gravity	0.650
Mole Weight	18.785
Specific Heat Ratio, Cp/Cv	1.266
Specific Heat, Cp	0.503 Btu/lb/°F
Inlet Compressibility	0.997

STATUS: Application requires PAA.

NOTICES:

No warranty or guarantee, either implied or expressed, is given on results from this program.

Data and procedures in this program are subject to change by Sullair Corp. without notice.

Accuracy of full-load compressor capacity and power predicted by this program is within +/-5% at the specified operating conditions. Part-load performance is estimated and has no tolerance.

PRODUCT APPLICATION ANALYSIS (PAA) BY SULLAIR:

Sullair has the right to verify all applications and performance estimates prior to order acceptance.

An application will require PAA prior to order acceptance if any Formal Limit is violated but the corresponding PAA Limit is not violated.

Any PAA limit violation precludes both Product Application Analysis and application acceptance by Sullair.

All applications with H2S or CO2 require approval by Sullair Corp. prior to order acceptance.

All engine-driven applications require torsional analysis by the compressor skid packager.

Sullair Corporation
3700 East Michigan Blvd
Michigan City, IN 46360

SullGas 6.0.4

Rotary Screw Gas Compressors

Job Description:
Customer Name:

Job/Run Ref No: 03-204/03-220
Customer Ref No:

RESULTS (Rating at Given Conditions)

Capacity Loading	100.0	100.0	%
Volume Flow Predicted	2.179	2.179	mmscfd
Mass Flow Predicted	75.2	75.2	lb/min
Power Required	373.5	373.5	bhp
Torque Required	1,089.8	1,089.8	ft-lb
Efficiency, Volumetric	NA	83.9	%
Efficiency, Adiabatic	NA	70.5	%
Oil Flow, Total	71.7	71.7	USgpm
Oil Flow, Brgs & Gears	11.7	11.7	USgpm
Oil Flow, Injection	60.0	60.0	USgpm
Heat Load, Oil Cooler	10,542	10,542	Btu/min
Heat Load, Aftercooler	3,028	3,028	Btu/min

COMPRESSOR **PDR25X-GD**

Rotor Diameter	255.0 mm
Male Rotor L/D	2.22
Volume Ratio Type	Fixed
Internal Volume Ratio (Vi)	3.6
Ideal Volume Ratio	5.46
Internal Gear Ratio	1.20
Compressor Input Speed	1800 rpm CW
Displacement	0.6317 ft³/rev
Male Rotor Tip Speed	28.8 m/s
Maximum Discharge Pressure	175 psig
Minimum Manifold Pressure	104 psig

DRIVER

Maximum Driver Power	374 bhp
Actual Engine Loading	99.9 %
Actual Driver Speed	1800 rpm
Gearbox Ratio	1.000

COMPRESSOR OIL MINERAL 150

Solubility of Gas in Oil	Low (0%-10% by wt)
Diluted Oil Viscosity	40 cSt
Density	54.268 lb/ft³
Specific Heat, Cp	0.509 Btu/lb/°F

SITE CONDITIONS

Elevation Above Sea Level	2500 feet
Barometric Pressure	13.400 psia

PRESSURES

Suction Flange, Skid	7.00 psig
Suction Loss, Skid	1.00 psi
Suction Flange, Compr	6.00 psig
Discharge Flange, Compr	153.00 psig
Discharge Loss, Skid	3.00 psi
Discharge Flange, Skid	150.00 psig
Pressure Ratio, Compressor	8.58
Pressure Loss, Oil System	10.00 psi

TEMPERATURES

Ambient Air	95.0 °F
Compressor Suction	60.0 °F
Compressor Discharge	200.0 °F
Aftercooler Outlet	120.0 °F
Compressor Injection Oil	160.0 °F

GAS PROPERTIES (given Specific Gravity)

Specific Gravity	0.650
Mole Weight	18.785
Specific Heat Ratio, Cp/Cv	1.266
Specific Heat, Cp	0.503 Btu/lb/°F
Inlet Compressibility	0.996

STATUS: Application requires PAA.

NOTICES:

No warranty or guarantee, either implied or expressed, is given on results from this program.

Data and procedures in this program are subject to change by Sullair Corp. without notice.

Accuracy of full-load compressor capacity and power predicted by this program is within +/-5% at the specified operating conditions. Part-load performance is estimated and has no tolerance.

PRODUCT APPLICATION ANALYSIS (PAA) BY SULLAIR:

Sullair has the right to verify all applications and performance estimates prior to order acceptance.

An application will require PAA prior to order acceptance if any Formal Limit is violated but the corresponding PAA Limit is not violated.

Any PAA limit violation precludes both Product Application Analysis and application acceptance by Sullair.

All applications with H2S or CO2 require approval by Sullair Corp. prior to order acceptance.

All engine-driven applications require torsional analysis by the compressor skid packager.

Sullair Corporation
3700 East Michigan Blvd
Michigan City, IN 46360

SullGas 6.0.4

Rotary Screw Gas Compressors

Job Description:
Customer Name:

Job/Run Ref No: 03-204/03-220
Customer Ref No:

RESULTS (Rating at Given Conditions)

Capacity Loading	97.3	100.0	%
Volume Flow Predicted	3.318	3.410	mmscfd
Mass Flow Predicted	114.5	117.7	lb/min
Power Required	395.1	405.4	bhp
Torque Required	1,152.9	1,182.8	ft-lb
Efficiency, Volumetric	NA	86.5	%
Efficiency, Adiabatic	NA	78.1	%
Oil Flow, Total	60.1	60.1	USgpm
Oil Flow, Brgs & Gears	11.2	11.2	USgpm
Oil Flow, Injection	48.8	48.8	USgpm
Heat Load, Oil Cooler	8,689	8,901	Btu/min
Heat Load, Aftercooler	4,611	4,739	Btu/min

COMPRESSOR PDR25X-GD

Rotor Diameter	255.0 mm
Male Rotor L/D	2.22
Volume Ratio Type	Fixed
Internal Volume Ratio (Vi)	3.6
Ideal Volume Ratio	3.93
Internal Gear Ratio	1.20
Compressor Input Speed	1800 rpm CW
Displacement	0.6317 ft³/rev
Male Rotor Tip Speed	28.8 m/s
Maximum Discharge Pressure	175 psig
Minimum Manifold Pressure	121 psig

DRIVER

Maximum Driver Power	395 bhp
Actual Engine Loading	100.0 %
Actual Driver Speed	1800 rpm
Gearbox Ratio	1.000

COMPRESSOR OIL MINERAL 150

Solubility of Gas in Oil	Low (0%-10% by wt)
Diluted Oil Viscosity	40 cSt
Density	54.268 lb/ft³
Specific Heat, Cp	0.509 Btu/lb/°F

SITE CONDITIONS

Elevation Above Sea Level	2500 feet
Barometric Pressure	13.400 psia

PRESSURES

Suction Flange, Skid	17.00 psig
Suction Loss, Skid	1.00 psi
Suction Flange, Compr	16.00 psig
Discharge Flange, Compr	153.00 psig
Discharge Loss, Skid	3.00 psi
Discharge Flange, Skid	150.00 psig
Pressure Ratio, Compressor	5.66
Pressure Loss, Oil System	10.00 psi

TEMPERATURES

Ambient Air	95.0 °F
Compressor Suction	60.0 °F
Compressor Discharge	200.0 °F
Aftercooler Outlet	120.0 °F
Compressor Injection Oil	160.0 °F

GAS PROPERTIES (given Specific Gravity)

Specific Gravity	0.650
Mole Weight	18.785
Specific Heat Ratio, Cp/Cv	1.266
Specific Heat, Cp	0.503 Btu/lb/°F
Inlet Compressibility	0.994

STATUS: Application is within all limits.

NOTICES:

No warranty or guarantee, either implied or expressed, is given on results from this program.

Data and procedures in this program are subject to change by Sullair Corp. without notice.

Accuracy of full-load compressor capacity and power predicted by this program is within +/-5% at the specified operating conditions. Part-load performance is estimated and has no tolerance.

PRODUCT APPLICATION ANALYSIS (PAA) BY SULLAIR:

Sullair has the right to verify all applications and performance estimates prior to order acceptance.

An application will require PAA prior to order acceptance if any Formal Limit is violated but the corresponding PAA Limit is not violated.

Any PAA limit violation precludes both Product Application Analysis and application acceptance by Sullair.

All applications with H2S or CO2 require approval by Sullair Corp. prior to order acceptance.

All engine-driven applications require torsional analysis by the compressor skid packager.

Sullair Corporation
3700 East Michigan Blvd
Michigan City, IN 46360

SullGas 6.0.4

Rotary Screw Gas Compressors

Job Description:
Customer Name:

Job/Run Ref No: 03-204/03-220
Customer Ref No:

RESULTS (Rating at Given Conditions)

Capacity Loading	94.8	100.0	%
Volume Flow Predicted	3.584	3.780	mmscfd
Mass Flow Predicted	123.7	130.4	lb/min
Power Required	395.0	414.9	bhp
Torque Required	1,152.5	1,210.7	ft-lb
Efficiency, Volumetric	NA	87.0	%
Efficiency, Adiabatic	NA	79.0	%
Oil Flow, Total	57.0	57.0	USgpm
Oil Flow, Brgs & Gears	11.1	11.1	USgpm
Oil Flow, Injection	45.9	45.9	USgpm
Heat Load, Oil Cooler	8,038	8,406	Btu/min
Heat Load, Aftercooler	4,981	5,254	Btu/min

COMPRESSOR PDR25X-GD

Rotor Diameter	255.0 mm
Male Rotor L/D	2.22
Volume Ratio Type	Fixed
Internal Volume Ratio (Vi)	3.6
Ideal Volume Ratio	3.64
Internal Gear Ratio	1.20
Compressor Input Speed	1800 rpm CW
Displacement	0.6317 ft³/rev
Male Rotor Tip Speed	28.8 m/s
Maximum Discharge Pressure	175 psig
Minimum Manifold Pressure	126 psig

DRIVER

Maximum Driver Power	395 bhp
Actual Engine Loading	100.0 %
Actual Driver Speed	1800 rpm
Gearbox Ratio	1.000

COMPRESSOR OIL MINERAL 150

Solubility of Gas in Oil	Low (0%-10% by wt)
Diluted Oil Viscosity	40 cSt
Density	54.268 lb/ft³
Specific Heat, Cp	0.509 Btu/lb/°F

SITE CONDITIONS

Elevation Above Sea Level	2500 feet
Barometric Pressure	13.400 psia

PRESSURES

Suction Flange, Skid	20.00 psig
Suction Loss, Skid	1.00 psi
Suction Flange, Compr	19.00 psig
Discharge Flange, Compr	153.00 psig
Discharge Loss, Skid	3.00 psi
Discharge Flange, Skid	150.00 psig
Pressure Ratio, Compressor	5.14
Pressure Loss, Oil System	10.00 psi

TEMPERATURES

Ambient Air	95.0 °F
Compressor Suction	60.0 °F
Compressor Discharge	200.0 °F
Aftercooler Outlet	120.0 °F
Compressor Injection Oil	160.0 °F

GAS PROPERTIES (given Specific Gravity)

Specific Gravity	0.650
Mole Weight	18.785
Specific Heat Ratio, Cp/Cv	1.266
Specific Heat, Cp	0.503 Btu/lb/°F
Inlet Compressibility	0.993

STATUS: Application requires PAA.

NOTICES:

No warranty or guarantee, either implied or expressed, is given on results from this program.

Data and procedures in this program are subject to change by Sullair Corp. without notice.

Accuracy of full-load compressor capacity and power predicted by this program is within +/-5% at the specified operating conditions. Part-load performance is estimated and has no tolerance.

PRODUCT APPLICATION ANALYSIS (PAA) BY SULLAIR:

Sullair has the right to verify all applications and performance estimates prior to order acceptance.

An application will require PAA prior to order acceptance if any Formal Limit is violated but the corresponding PAA Limit is not violated.

Any PAA limit violation precludes both Product Application Analysis and application acceptance by Sullair.

All applications with H2S or CO2 require approval by Sullair Corp. prior to order acceptance.

All engine-driven applications require torsional analysis by the compressor skid packager.

SULLAIR
Sullair Corporation
3700 East Michigan Blvd
Michigan City, IN 46360

SullGas 6.0.4

Rotary Screw Gas Compressors

Job Description:
Customer Name:

Job/Run Ref No: 03-204/03-220
Customer Ref No:

RESULTS (Rating at Given Conditions)

Capacity Loading	92.0	100.0	%
Volume Flow Predicted	1.160	1.261	mmscfd
Mass Flow Predicted	40.0	43.5	lb/min
Power Required	395.7	426.9	bhp
Torque Required	1,154.6	1,245.7	ft-lb
Efficiency, Volumetric	NA	76.1	%
Efficiency, Adiabatic	NA	51.0	%
Oil Flow, Total	101.3	101.3	USgpm
Oil Flow, Brgs & Gears	13.8	13.8	USgpm
Oil Flow, Injection	87.6	87.6	USgpm
Heat Load, Oil Cooler	13,963	15,043	Btu/min
Heat Load, Aftercooler	1,612	1,752	Btu/min

SITE CONDITIONS

Elevation Above Sea Level	2500 feet
Barometric Pressure	13.400 psia

PRESSURES

Suction Flange, Skid	0.00 psig
Suction Loss, Skid	1.00 psi
Suction Flange, Compr	-1.00 psig
Discharge Flange, Compr	198.00 psig
Discharge Loss, Skid	3.00 psi
Discharge Flange, Skid	195.00 psig
Pressure Ratio, Compressor	17.05
Pressure Loss, Oil System	10.00 psi

TEMPERATURES

Ambient Air	95.0 °F
Compressor Suction	60.0 °F
Compressor Discharge	200.0 °F
Aftercooler Outlet	120.0 °F
Compressor Injection Oil	160.0 °F

COMPRESSOR PDR25X-GD

Rotor Diameter	255.0 mm
Male Rotor L/D	2.22
Volume Ratio Type	Fixed
Internal Volume Ratio (Vi)	3.6
Ideal Volume Ratio	9.40
Internal Gear Ratio	1.20
Compressor Input Speed	1800 rpm CW
Displacement	0.6317 ft³/rev
Male Rotor Tip Speed	28.8 m/s
Maximum Discharge Pressure	175 psig
Minimum Manifold Pressure	105 psig

GAS PROPERTIES (given Specific Gravity)

Specific Gravity	0.650
Mole Weight	18.785
Specific Heat Ratio, Cp/Cv	1.266
Specific Heat, Cp	0.503 Btu/lb/°F
Inlet Compressibility	0.997

DRIVER

Maximum Driver Power	395 bhp
Actual Engine Loading	100.2 %
Actual Driver Speed	1800 rpm
Gearbox Ratio	1.000

COMPRESSOR OIL MINERAL 150

Solubility of Gas in Oil	Low (0%-10% by wt)
Diluted Oil Viscosity	40 cSt
Density	54.268 lb/ft³
Specific Heat, Cp	0.509 Btu/lb/°F

STATUS: Application requires PAA.

NOTICES:

No warranty or guarantee, either implied or expressed, is given on results from this program.

Data and procedures in this program are subject to change by Sullair Corp. without notice.

Accuracy of full-load compressor capacity and power predicted by this program is within +/-5% at the specified operating conditions. Part-load performance is estimated and has no tolerance.

PRODUCT APPLICATION ANALYSIS (PAA) BY SULLAIR:

Sullair has the right to verify all applications and performance estimates prior to order acceptance.

An application will require PAA prior to order acceptance if any Formal Limit is violated but the corresponding PAA Limit is not violated.

Any PAA limit violation precludes both Product Application Analysis and application acceptance by Sullair.

All applications with H2S or CO2 require approval by Sullair Corp. prior to order acceptance.

All engine-driven applications require torsional analysis by the compressor skid packager.

Sullair Corporation
3700 East Michigan Blvd
Michigan City, IN 46360

SullGas 6.0.4

Rotary Screw Gas Compressors

Job Description:
Customer Name:

Job/Run Ref No: 03-204/03-220
Customer Ref No:

RESULTS (Rating at Given Conditions)

Capacity Loading	79.5	100.0	%
Volume Flow Predicted	2.656	3.341	mmscfd
Mass Flow Predicted	91.7	115.3	lb/min
Power Required	395.1	481.1	bhp
Torque Required	1,152.9	1,403.9	ft-lb
Efficiency, Volumetric	NA	84.8	%
Efficiency, Adiabatic	NA	75.4	%
Oil Flow, Total	82.9	82.9	USgpm
Oil Flow, Brgs & Gears	13.1	13.1	USgpm
Oil Flow, Injection	69.7	69.7	USgpm
Heat Load, Oil Cooler	10,299	12,281	Btu/min
Heat Load, Aftercooler	3,692	4,644	Btu/min

SITE CONDITIONS

Elevation Above Sea Level	2500 feet
Barometric Pressure	13.400 psia

PRESSURES

Suction Flange, Skid	17.00 psig
Suction Loss, Skid	1.00 psi
Suction Flange, Compr	16.00 psig
Discharge Flange, Compr	198.00 psig
Discharge Loss, Skid	3.00 psi
Discharge Flange, Skid	195.00 psig
Pressure Ratio, Compressor	7.19
Pressure Loss, Oil System	10.00 psi

COMPRESSOR PDR25X-GD

Rotor Diameter	255.0 mm
Male Rotor L/D	2.22
Volume Ratio Type	Fixed
Internal Volume Ratio (Vi)	3.6
Ideal Volume Ratio	4.75
Internal Gear Ratio	1.20
Compressor Input Speed	1800 rpm CW
Displacement	0.6317 ft³/rev
Male Rotor Tip Speed	28.8 m/s
Maximum Discharge Pressure	175 psig
Minimum Manifold Pressure	133 psig

TEMPERATURES

Ambient Air	95.0 °F
Compressor Suction	60.0 °F
Compressor Discharge	200.0 °F
Aftercooler Outlet	120.0 °F
Compressor Injection Oil	160.0 °F

GAS PROPERTIES (given Specific Gravity)

Specific Gravity	0.650
Mole Weight	18.785
Specific Heat Ratio, Cp/Cv	1.266
Specific Heat, Cp	0.503 Btu/lb/°F
Inlet Compressibility	0.994

DRIVER

Maximum Driver Power	395 bhp
Actual Engine Loading	100.0 %
Actual Driver Speed	1800 rpm
Gearbox Ratio	1.000

COMPRESSOR OIL MINERAL 150

Solubility of Gas in Oil	Low (0%-10% by wt)
Diluted Oil Viscosity	40 cSt
Density	54.268 lb/ft³
Specific Heat, Cp	0.509 Btu/lb/°F

STATUS: Application requires PAA.

NOTICES:

No warranty or guarantee, either implied or expressed, is given on results from this program.

Data and procedures in this program are subject to change by Sullair Corp. without notice.

Accuracy of full-load compressor capacity and power predicted by this program is within +/-5% at the specified operating conditions. Part-load performance is estimated and has no tolerance.

PRODUCT APPLICATION ANALYSIS (PAA) BY SULLAIR:

Sullair has the right to verify all applications and performance estimates prior to order acceptance.

An application will require PAA prior to order acceptance if any Formal Limit is violated but the corresponding PAA Limit is not violated.

Any PAA limit violation precludes both Product Application Analysis and application acceptance by Sullair.

All applications with H2S or CO2 require approval by Sullair Corp. prior to order acceptance.

All engine-driven applications require torsional analysis by the compressor skid packager.

Sullair Corporation
3700 East Michigan Blvd
Michigan City, IN 46360

SullGas 6.0.4

Rotary Screw Gas Compressors

Job Description:
Customer Name:

Job/Run Ref No: 03-204/03-220
Customer Ref No:

RESULTS (Rating at Given Conditions)

Capacity Loading	77.5	100.0	%
Volume Flow Predicted	2.875	3.710	mmscfd
Mass Flow Predicted	99.2	128.0	lb/min
Power Required	395.2	490.7	bhp
Torque Required	1,153.2	1,431.8	ft-lb
Efficiency, Volumetric	NA	85.4	%
Efficiency, Adiabatic	NA	77.1	%
Oil Flow, Total	80.0	80.0	USgpm
Oil Flow, Brgs & Gears	13.0	13.0	USgpm
Oil Flow, Injection	67.0	67.0	USgpm
Heat Load, Oil Cooler	9,771	11,790	Btu/min
Heat Load, Aftercooler	3,996	5,157	Btu/min

COMPRESSOR PDR25X-GD

Rotor Diameter	255.0 mm
Male Rotor L/D	2.22
Volume Ratio Type	Fixed
Internal Volume Ratio (Vi)	3.6
Ideal Volume Ratio	4.40
Internal Gear Ratio	1.20
Compressor Input Speed	1800 rpm CW
Displacement	0.6317 ft^3/rev
Male Rotor Tip Speed	28.8 m/s
Maximum Discharge Pressure	175 psig
Minimum Manifold Pressure	138 psig

DRIVER

Maximum Driver Power	395 bhp
Actual Engine Loading	100.1 %
Actual Driver Speed	1800 rpm
Gearbox Ratio	1.000

COMPRESSOR OIL MINERAL 150

Solubility of Gas in Oil	Low (0%-10% by wt)
Diluted Oil Viscosity	40 cSt
Density	54.268 lb/ft^3
Specific Heat, Cp	0.509 Btu/lb/°F

SITE CONDITIONS

Elevation Above Sea Level	2500 feet
Barometric Pressure	13.400 psia

PRESSURES

Suction Flange, Skid	20.00 psig
Suction Loss, Skid	1.00 psi
Suction Flange, Compr	19.00 psig
Discharge Flange, Compr	198.00 psig
Discharge Loss, Skid	3.00 psi
Discharge Flange, Skid	195.00 psig
Pressure Ratio, Compressor	6.52
Pressure Loss, Oil System	10.00 psi

TEMPERATURES

Ambient Air	95.0 °F
Compressor Suction	60.0 °F
Compressor Discharge	200.0 °F
Aftercooler Outlet	120.0 °F
Compressor Injection Oil	160.0 °F

GAS PROPERTIES (given Specific Gravity)

Specific Gravity	0.650
Mole Weight	18.785
Specific Heat Ratio, Cp/Cv	1.266
Specific Heat, Cp	0.503 Btu/lb/°F
Inlet Compressibility	0.993

STATUS: Application requires PAA.

NOTICES:

No warranty or guarantee, either implied or expressed, is given on results from this program.

Data and procedures in this program are subject to change by Sullair Corp. without notice.

Accuracy of full-load compressor capacity and power predicted by this program is within +/-5% at the specified operating conditions. Part-load performance is estimated and has no tolerance.

PRODUCT APPLICATION ANALYSIS (PAA) BY SULLAIR:

Sullair has the right to verify all applications and performance estimates prior to order acceptance.

An application will require PAA prior to order acceptance if any Formal Limit is violated but the corresponding PAA Limit is not violated.

Any PAA limit violation precludes both Product Application Analysis and application acceptance by Sullair.

All applications with H2S or CO2 require approval by Sullair Corp. prior to order acceptance.

All engine-driven applications require torsional analysis by the compressor skid packager.