

FLOWSERVE Los Angeles, California

PUMP TEST DATA
Doc. No. 280-RLCB02297-02
Rev O

JOB ORDER INFORMATION

COMMERCIAL

Shop order no.	RLCB02297
Serial no.	05RLCB0229701002
Customer	Linde BOC Process Plant LLC
Contractor	End User: Giant Industries, Inc.
Purchase order	PQ7053748
Item no.	G-544B
Witnessed by	
Tested by	B. Yohannes
Checked by	<i>H</i>
Approved by	
Date	12/6/2005

TECHNICAL

Imp. diameter (in.)	11.6300
Imp. pattern	6HPX12C-1-1-3
Imp. material	13-4 Cr
Case material	Carbon Steel
Wrg. ring clr. (in.)	
Suct/Disch Dia (in.)	10.020 6.065
Flow meter C	886.75
Size (in.)	6HPX12C
Type/Stages	HPX 1

**Test Eng.
Originals**

GUARANTEED PUMPING CONDITIONS

RPM	Flow (GPM)	T.D.Head (ft)	NPSHR (ft)	Sp. Gr.	Temp. (°F)
3540	1300.00	520.00	18.70	0.6200	630.0

TEST DATA POINTS

	1	2	3	4	5	6	7	8	9	10
Speed (RPM)	3580.0	3573.0	3576.0	3582.0	3585.0	3589.0	3580.0	3581.0	-----	-----
Power (kW)	185.23	252.80	227.25	168.72	148.80	101.71	185.23	184.48	-----	-----
Power (BHP)	248.39	339.00	304.74	226.25	199.54	136.39	248.39	247.39	-----	-----
Suction pressure (psi)	18.02	18.17	20.64	20.99	19.89	20.14	18.94	22.92	-----	-----
Diff. pressure (psi)	235.01	144.87	206.17	247.23	251.76	255.81	235.29	235.00	-----	-----
Diff. head (feet)	543.96	335.34	477.30	572.38	582.94	592.30	544.87	545.64	-----	-----
Velocity head (feet)	2.83	14.43	7.42	1.81	0.87	0.01	3.00	2.94	-----	-----
Total diff. head (feet)	546.79	349.77	484.72	574.19	583.80	592.31	547.87	548.58	-----	-----
Suction temp. (°F)	74.0	75.0	76.0	76.0	77.0	77.0	78.0	93.0	-----	-----
Suction S. G.	0.9980	0.9979	0.9978	0.9978	0.9977	0.9977	0.9975	0.9949	-----	-----
Venturi pressure (psid)	2.17	11.04	5.68	1.39	0.66	0.01	2.29	2.24	-----	-----
Temp. correction factor	1.0005	1.0006	1.0007	1.0007	1.0008	1.0008	1.0009	1.0028	-----	-----
Flow (GPM)	1306.09	2948.37	2115.08	1044.77	722.22	88.75	1344.49	1330.88	-----	-----
* Efficiency	72.46%	76.66%	84.77%	66.81%	53.23%	9.71%	74.70%	74.14%	-----	-----

* The efficiency curve represents the true performance characteristics of test head and power measurements.

PERFORMANCE AT RATED CONDITIONS OF 3540 RPM & 0.6200 SP. GR.

	1	2	3	4	5	6	7	8	9	10
Flow (GPM)	1291.49	2921.14	2093.79	1032.52	713.16	87.54	1329.46	1315.64	-----	-----
Total diff. head (feet)	534.64	343.34	475.01	560.80	569.24	576.25	535.69	536.09	-----	-----
Power (BHP)	149.19	204.84	183.70	135.70	119.39	81.34	149.27	148.93	-----	-----

FLOWSERVE Los Angeles, California

Test Engr. *Approved* *Witness*

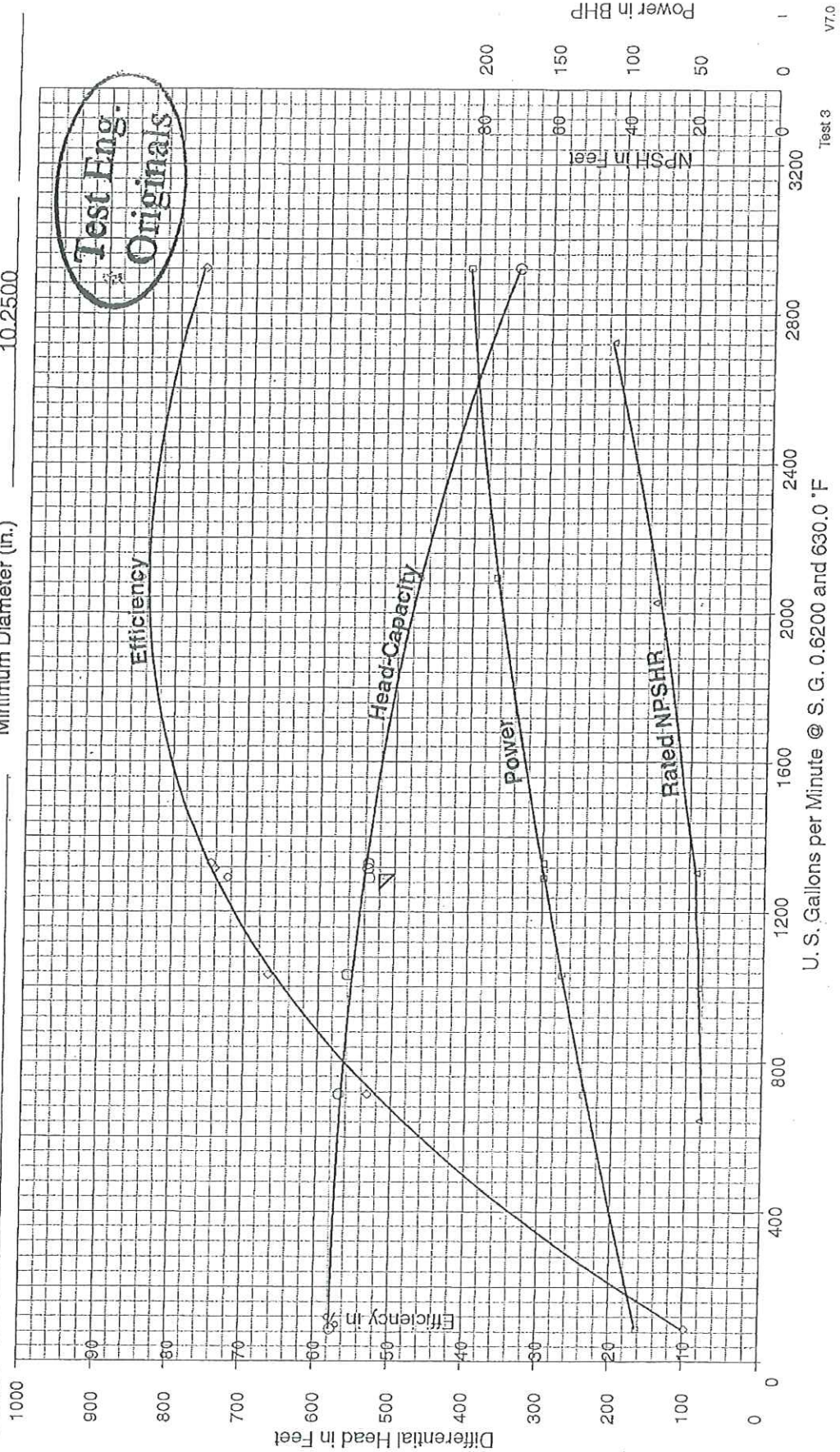
Contractor _____
Customer _____
Item No. _____
P. O. No. _____
Pump Serial Number _____
Ref. Job _____

End User: Giant Industries, Inc.
Linde BOC Process Plant LLC
G-544B
PQ7053748
05BLCB0229701002

Doc./Curve No. 280- RLCB02297-02
Rev O

Size 6HPX12C Type HPX Stages 1 R.P.M. 3540
Date 12/6/2005 Impeller Eye Area (sq. in.) _____

Impeller Pattern 6HPX12C-1-1-3
Maximum Diameter (in.) 12.7500
Rated Diameter (in.) 11.6300
Minimum Diameter (in.) 10.2500



Shop order no.	RLCB02297
Serial no.	05RLCB0229701002
Size	6HPX12C
Type	HPX
Number of stages	1
Cv	886.75

Customer	Linde BOC Process Plant LLC
Contractor	End User: Giant Industries, Inc.
Purchase order	PQ7053748
Item no.	G-544B
Date	12/6/2005



TEST DATA POINTS

	1	2	3	4	5	6	7	8	9	10
Speed (RPM)	3574.0	3576.0	3582.0	3584.0	3586.0	-----	-----	-----	-----	-----
Diff. pressure (psid)	151.44	197.95	224.59	235.20	239.20	-----	-----	-----	-----	-----
Diff. head (feet)	350.70	458.41	520.11	544.68	553.94	-----	-----	-----	-----	-----
Velocity head (feet)	12.55	6.96	2.90	1.70	0.71	-----	-----	-----	-----	-----
Total diff. head (feet)	363.26	465.38	523.00	546.37	554.65	-----	-----	-----	-----	-----
Barometric Press. ("Hg)	29.99	29.99	29.99	29.99	29.99	-----	-----	-----	-----	-----
Suction Pressure (psi)	3.70	-1.30	-6.40	-6.70	-7.00	-----	-----	-----	-----	-----
Suction temp. (°F)	78.0	80.0	82.0	83.0	84.0	-----	-----	-----	-----	-----
Suction S. G.	0.9975	0.9975	0.9975	0.9975	0.9975	-----	-----	-----	-----	-----
Venturi pressure (psid)	9.60	5.32	2.21	1.30	0.54	-----	-----	-----	-----	-----
Temp. correction factor	1.0009	1.0012	1.0015	1.0016	1.0017	-----	-----	-----	-----	-----
Flow (GPM)	2750.22	2048.52	1321.37	1010.71	652.75	-----	-----	-----	-----	-----
NPSH (feet)	41.57	29.93	18.03	17.29	16.55	-----	-----	-----	-----	-----
Vel. head suction (feet)	1.95	1.08	0.45	0.26	0.11	-----	-----	-----	-----	-----
Elevation Head (feet)	0.00	0.00	0.00	0.00	0.00	-----	-----	-----	-----	-----
NPSHR (feet)	43.53	31.01	18.48	17.55	16.66	-----	-----	-----	-----	-----

PERFORMANCE AT RATED CONDITIONS OF 3540 RPM & 0.6200 SP. GR.

	1	2	3	4	5	6	7	8	9	10
Flow (GPM)	2724.06	2027.90	1305.87	998.30	644.37	-----	-----	-----	-----	-----
Total diff. head (feet)	356.38	456.05	510.81	533.04	540.51	-----	-----	-----	-----	-----
NPSHR (feet)	42.70	30.39	18.05	17.12	16.24	-----	-----	-----	-----	-----

