

**2006**

**ALBERTA**

**MACHINERY & EQUIPMENT**

**ASSESSMENT**

**MINISTER'S GUIDELINES**

**ALBERTA MUNICIPAL AFFAIRS**

The logo for the province of Alberta, featuring the word "Alberta" in a stylized, bold, sans-serif font. The letter "A" is significantly larger and more prominent than the other letters, which are in a smaller, uniform size.





ALBERTA

Copyright of the Statutes and Regulations, whether in print or electronic format, belongs to the Province of Alberta. No person may reproduce copies of Alberta Statutes and Regulations for any purpose without the prior consent of the Alberta Queen's Printer.

The official Statutes and Regulations should be consulted for all purposes of interpreting and applying the law.

Official copies of Alberta legislation are available in print and electronic format from:

Alberta Queen's Printer, Edmonton  
Main Floor, Park Plaza  
10611 – 98 Avenue, Edmonton, Alberta T5K 2P7  
Phone: (780) 427-4952 Fax: (780) 452-0668

---





ALBERTA  
MINISTER OF MUNICIPAL AFFAIRS

Office of the Minister  
MLA, Medicine Hat

MINISTERIAL ORDER NO. L-162/06

I, Rob Renner, Minister of Municipal Affairs, under the authority of the *Municipal Government Act* and the applicable regulations make the following order:

- The 2006 Alberta Farm Land Assessment Minister's Guidelines,
- The 2006 Alberta Linear Property Assessment Minister's Guidelines,
- The 2006 Alberta Machinery and Equipment Assessment Minister's Guidelines,
- The 2006 Alberta Railway Property Assessment Minister's Guidelines, and
- The 2005 Alberta Construction Cost Reporting Guide,

as set out in the attached document, are established and become effective for the 2006 assessment year for taxation in 2007.

This Ministerial Order rescinds Ministerial Order No. L-168/05 as of December 31, 2006.

Dated at Edmonton, Alberta, this 6 day of December, 2006.

Rob Renner  
Minister of Municipal Affairs



# T A B L E O F C O N T E N T S

## 2006 ALBERTA MACHINERY & EQUIPMENT ASSESSMENT MINISTER'S GUIDELINES

<b>1.000</b>	<b>APPLICATION</b> .....	<b>1</b>
	1.001 DEFINITIONS.....	1
	1.002 CALCULATION OF ASSESSMENT.....	1
	1.003 MINISTERIAL PRESCRIPTION .....	1
<b>2.000</b>	<b>SCHEDULE A –BASE COST</b> .....	<b>2</b>
	<b>2.001 MACHINERY AND EQUIPMENT NOT DESCRIBED IN SCHEDULE A</b> .....	<b>2</b>
	2.001.100 TABLE 1 COST FACTORS .....	2
	<b>2.005 MACHINERY AND EQUIPMENT DESCRIBED IN SCHEDULE A</b> .....	<b>3</b>
	<b>2.010 TANKS</b> .....	<b>3</b>
	2.010.100 STEEL BOLTED, WELDED, OR POP TANKS—ABOVE GROUND.....	3
	2.010.200 STAIRWAYS—WALKWAYS—STILES.....	4
	2.010.300 STEEL WELDED UNDERGROUND TANKS.....	4
	2.010.400 TANKS—INSULATION AND COATINGS.....	5
	2.010.420 STEEL TANKS—FIBREGLASS INSULATION (50 MM) .....	6
	2.010.430 STEEL TANKS—FIBREGLASS INSULATION (76 MM) .....	6
	2.010.500 STEEL TANKS—URETHANE INSULATION (25 MM).....	7
	2.010.510 STEEL TANKS—URETHANE INSULATION (38 MM).....	8
	2.010.520 STEEL TANKS—URETHANE INSULATION (50 MM).....	8
	2.010.600 FIBREGLASS TANKS—VERTICAL.....	9
	2.010.620 FIBREGLASS TANKS—UNDERGROUND.....	9
	2.010.640 FIBREGLASS TANKS—INSULATION .....	9
	2.010.700 STEEL POP TANKS—RECTANGULAR .....	9
	2.010.720 LPG STEEL TANKS .....	10
	2.010.800 STEEL CHEMICAL STORAGE TANKS .....	10
	2.010.820 PLASTIC CHEMICAL STORAGE TANKS .....	10
	<b>2.020 HEATERS, GAUGES, AND SWITCHES</b> .....	<b>11</b>
	2.020.100 TANK HEATERS .....	11
	2.020.200 INDIRECT FIRED LINE HEATERS.....	11
	2.020.300 TANK GAUGES.....	11
	2.020.400 LEVEL SWITCHES .....	12
	<b>2.030 TREATERS</b> .....	<b>12</b>
	2.030.100 VERTICAL .....	12
	2.030.200 MECHANICAL—HORIZONTAL .....	13
	2.030.300 ELECTROSTATIC/DUAL POLARITY—HORIZONTAL .....	13
	<b>2.040 SEPARATORS</b> .....	<b>14</b>
	2.040.100 VERTICAL 2-PHASE.....	14
	2.040.200 VERTICAL 3-PHASE.....	15

2.040.300	HORIZONTAL 2-PHASE .....	15
2.040.400	HORIZONTAL 3-PHASE .....	16
2.040.500	VERTICAL CENTRIFUGAL/RECYCLING .....	16
2.040.600	ENVIRONMENTAL LOW STAGE SEPARATOR TANK UNITS .....	17
2.040.700	PRE-FABRICATED ENVIRONMENTAL BATTERY UNITS .....	17
<b>2.050</b>	<b>FUEL GAS SCRUBBERS .....</b>	<b>18</b>
<b>2.060</b>	<b>FREE WATER KNOCKOUTS .....</b>	<b>19</b>
<b>2.070</b>	<b>GAS BOOTS .....</b>	<b>19</b>
<b>2.080</b>	<b>FLARE SYSTEMS .....</b>	<b>19</b>
2.080.100	VENT STACKS 100 MM (4 IN.) STACK .....	19
2.080.120	VENT STACKS 150 MM (6 IN.) STACK .....	20
2.080.140	VENT STACKS 203 MM (8 IN.) STACK .....	20
2.080.200	FLARE STACKS PILOT & SHOTTUBE 100 MM (4 IN.) STACK .....	20
2.080.220	FLARE STACKS PILOT & SHOTTUBE 150 MM (6 IN.) STACK .....	20
2.080.240	FLARE STACKS PILOT & SHOTTUBE 200 MM (8 IN.) STACK .....	20
2.080.300	FLARE STACKS—MANUAL OR AUTOMATIC OR SOLAR IGNITER 100 MM (4 IN.) STACK .....	21
2.080.320	FLARE STACKS—MANUAL OR AUTOMATIC OR SOLAR IGNITER 150 MM (6 IN.) STACK .....	21
2.080.340	FLARE STACKS—MANUAL OR AUTOMATIC OR SOLAR IGNITER 200 MM (8 IN.) STACK .....	21
2.080.500	INCINERATORS .....	21
<b>2.090</b>	<b>COMPRESSORS .....</b>	<b>22</b>
2.090.100	VAPOUR RECOVERY —BLOWER .....	22
2.090.200	VAPOUR RECOVERY—SINGLE STAGE .....	22
2.090.300	VAPOUR RECOVERY—TWO STAGE .....	22
2.090.400	GAS COMPRESSORS—TWO STAGE ELECTRIC DRIVE—PACKAGED .....	23
2.090.500	GAS COMPRESSORS—TWO STAGE GAS DRIVE—PACKAGED .....	23
<b>2.100</b>	<b>PUMPS .....</b>	<b>24</b>
2.100.100	VERTICAL TURBINE PUMPS .....	24
2.100.200	CENTRIFUGAL PUMPS—END SUCTION .....	24
2.100.300	CENTRIFUGAL PUMPS—VERTICAL INLINE .....	25
2.100.400	ROTARY GEAR PUMPS .....	25
2.100.500	PROGRESSIVE CAVITY PUMPS .....	26
2.100.600	PISTON / PLUNGER PUMPS .....	26
2.100.700	WATERFLOOD PUMPS .....	27
<b>2.110</b>	<b>AIR COMPRESSORS .....</b>	<b>27</b>
2.110.100	UTILITY AIR COMPRESSORS .....	27
2.110.200	INSTRUMENT AIR COMPRESSORS—RECIPROCATING .....	27
2.110.300	INSTRUMENT AIR COMPRESSORS—ROTARY SCREW .....	28
<b>2.120</b>	<b>CHEMICAL INJECTORS .....</b>	<b>28</b>
2.120.100	ELECTRIC DRIVE .....	28
2.120.200	AIR/GAS DRIVERS .....	28
2.120.300	OSCILLAMATIC .....	29



<b>2.130 CONTROL VALVES .....</b>	<b>29</b>
2.130.100    EMERGENCY SHUTDOWN VALVES (ESD).....	29
2.130.200    2-WAY PNEUMATIC VALVES.....	29
2.130.300    INTERMITTER–TIME CYCLE CONTROLLER.....	30
<b>2.140 CHOKES .....</b>	<b>30</b>
2.140.100    WELLHEAD/MANIFOLDS–WILLIS MANUAL .....	30
2.140.200    WELLHEAD/MANIFOLDS–MASTER FLO MANUAL .....	30
2.140.300    WELLHEAD/MANIFOLDS–WILLIS PNEUMATIC .....	30
2.140.400    WELLHEAD/MANIFOLDS–MASTER FLO PNEUMATIC .....	31
<b>2.150 ORIFICE FITTING AND METER RUNS .....</b>	<b>31</b>
2.150.100    SENIOR .....	31
2.150.200    SIMPLEX .....	31
<b>2.160 METERING AND ANALYSIS .....</b>	<b>32</b>
2.160.100    MECHANICAL LIQUID METERS .....	32
2.160.200    MECHANICAL GAS METERS.....	32
2.160.300    LIQUID TURBINE METERS .....	32
2.160.400    TOTALIZERS AND ANALYZERS.....	33
2.160.500    CAPACITANCE PROBES .....	33
2.160.600    CHART RECORDERS .....	33
2.160.700    TRANSMITTERS.....	33
<b>2.170 PRODUCTION MANIFOLDS.....</b>	<b>34</b>
2.170.100    MANUAL–PER WELL.....	34
2.170.200    ROTARY SELECTOR VALVE .....	34
<b>2.180 PIGGING EQUIPMENT.....</b>	<b>35</b>
2.180.100    PIG LAUNCHER/RECEIVER TRAPS.....	35
2.180.200    PIG ENTRY TEES.....	35
2.180.300    PIG BALL VALVES–MANUAL INJECTORS .....	35
<b>2.190 ELECTRICAL SERVICES .....</b>	<b>36</b>
2.190.100    GENERAL SERVICE ENTRANCE ON THE SITE .....	36
2.190.400    THERMO–ELECTRIC GENERATORS.....	36
2.190.500    REMOTE SYSTEM RADIO TOWERS.....	36
2.190.600    FIRE AND GAS DETECTION SYSTEMS.....	36
<b>2.230 DEHYDRATORS.....</b>	<b>37</b>
2.230.100    CALCIUM CHLORIDE DRYERS.....	37
2.230.200    GLYCOL DEHYDRATOR PACKAGE - 2 PHASE .....	37
2.230.300    GLYCOL DEHYDRATOR PACKAGE OPTIONS .....	38
<b>2.240 FILTERS.....</b>	<b>39</b>
2.240.100    PECO LIQUID FILTERS .....	39
2.240.200    PECO GAS FILTER SEPARATIONS .....	39
2.240.300    PECO DRY GAS FILTERS.....	39

<b>2.250</b>	<b>LACT UNITS .....</b>	<b>40</b>
2.250.100	60 MM AND 89 MM PIPING UNITS .....	40
2.250.200	114 MM PIPING UNITS.....	40
<b>3.000</b>	<b>SCHEDULE B-ASSESSMENT YEAR MODIFIERS.....</b>	<b>41</b>
<b>4.000</b>	<b>SCHEDULE C-DEPRECIATION .....</b>	<b>42</b>
4.001	TABLE 1-ANTICIPATED AGE LIFE.....	43
4.002	TABLE 2-DEPRECIATION FACTORS - ANTICIPATED AGE LIFE .....	44
<b>5.000</b>	<b>SCHEDULE D-ADDITIONAL DEPRECIATION .....</b>	<b>46</b>

## 1.000 APPLICATION

Pursuant to section 9 of the Regulation, the assessor appointed by the municipality must follow the procedures set out in the *2006 Alberta Machinery and Equipment Assessment Minister's Guidelines*.

### 1.001 DEFINITIONS

In the *2006 Alberta Machinery and Equipment Minister's Guidelines*,

- (a) **Act** means the *Municipal Government Act* (RSA 2000 Ch. M-26);
- (b) **assessment year** has the meaning given to it in the Regulation;
- (c) **assessment year modifier**, means the factor which is applied to the base cost of machinery and equipment in order to adjust its base cost to the assessment year;
- (d) **assessor** has the meaning given to it in the Act;
- (e) **base cost** means either
  - (i) the value resulting from the formula shown in Schedule A of the *2006 Machinery and Equipment Minister's Guidelines*, or
  - (ii) the value of included costs multiplied by the cost factor;
- (f) **cost factor (cf)** means the factor that adjusts included cost (ic) from the year built to the base cost;
- (g) **included costs (ic)** means the value of machinery and equipment calculated in accordance with the *2005 Construction Cost Reporting Guide*, prior to adjustment by the cost factor;
- (h) **machinery and equipment** has the meaning given to it in the Regulation;
- (i) **Regulation** means the *Matters Relating to Assessment and Taxation Regulation* (AR 220/2004), as amended.

### 1.002 CALCULATION OF ASSESSMENT

The assessment of machinery and equipment in a municipality shall be calculated by:

- (a) establishing the base cost as prescribed in Schedule A of the *2006 Alberta Machinery and Equipment Assessment Minister's Guidelines*;
- (b) multiplying the base cost by the appropriate assessment year modifier prescribed in Schedule B of the *2006 Alberta Machinery and Equipment Assessment Minister's Guidelines* to adjust the base cost to the assessment year;
- (c) multiplying the amount determined in clause (b) by the appropriate depreciation factor prescribed in Schedule C of the *2006 Alberta Machinery and Equipment Assessment Minister's Guidelines*;
- (d) if applicable, adjusting the amount determined in clause (c) for additional depreciation as prescribed in Schedule D of the *2006 Alberta Machinery and Equipment Assessment Minister's Guidelines*.

### 1.003 MINISTERIAL PRESCRIPTION

For the purposes of Minister's Guidelines and section 1(j) of the Regulation, it is hereby prescribed that the cost of all computer software, including both basic software and applications software, intended for or used in connection with the monitoring, control or operation of any assessable property shall be included in the base cost of the property which is otherwise assessable.

**2.000 SCHEDULE A –BASE COST****2.001 MACHINERY AND EQUIPMENT NOT DESCRIBED IN SCHEDULE A**

The cost factors in Table 1 and the formula below shall be used to determine the base cost for machinery and equipment that is not described in Schedule A.

Formula: Base Cost = ic X cf

Where ic = the cost of machinery and equipment determined in accordance with the *2005 Construction Cost Reporting Guide*.

cf = the cost factor that adjusts the included costs to the base cost.

**2.001.100 TABLE 1 COST FACTORS**

Year of Construction	Cost Factor	Year of Construction	Cost Factor	Year of Construction	Cost Factor
1913	18.86	1945	9.63	1977	1.96
1914	19.51	1946	8.93	1978	1.78
1915	19.88	1947	8.30	1979	1.57
1916	18.35	1948	7.94	1980	1.40
1917	15.57	1949	7.95	1981	1.24
1918	13.56	1950	7.73	1982	1.16
1919	11.97	1951	6.94	1983	1.28
1920	9.80	1952	6.50	1984	1.34
1921	10.87	1953	6.12	1985	1.30
1922	11.78	1954	6.05	1986	1.30
1923	11.48	1955	6.00	1987	1.26
1924	11.61	1956	5.76	1988	1.24
1925	11.79	1957	5.56	1989	1.18
1926	11.89	1958	5.45	1990	1.13
1927	11.90	1959	5.39	1991	1.07
1928	11.62	1960	5.34	1992	1.05
1929	11.18	1961	5.30	1993	1.03
1930	11.57	1962	5.29	1994	1.00
1931	12.46	1963	5.26	1995	0.98
1932	13.43	1964	5.05	1996	0.97
1933	14.08	1965	4.86	1997	0.94
1934	13.87	1966	4.68	1998	0.91
1935	13.73	1967	4.29	1999	0.88
1936	13.34	1968	4.48	2000	0.88
1937	12.49	1969	4.39	2001	0.85
1938	12.72	1970	3.97	2002	0.84
1939	12.60	1971	3.82	2003	0.82
1940	11.96	1972	3.53	2004	0.78
1941	10.91	1973	3.31	2005	0.72
1942	9.99	1974	2.93	2006	0.64
1943	9.77	1975	2.43		
1944	9.71	1976	2.14		

**2.005 MACHINERY AND EQUIPMENT DESCRIBED IN SCHEDULE A**

The rates in Schedule A reflect typical costs for field installations of component types. These rates apply to each component type regardless of the exact configuration of the system.

The rates for property described in Schedule A must be used to determine the base cost for that property and no changes or adjustments to the rates are permissible.

The base cost for machinery & equipment described in Schedule A is determined as follows:

- 1) select the component category (e.g. Tanks, Steel Bolted);
- 2) select the specific component (e.g. Size, Type) to identify the base rate; and,
- 3) multiply the base rate by the quantity.

**2.010 TANKS****2.010.100 STEEL BOLTED, WELDED, OR POP TANKS—ABOVE GROUND**

Size (m <sup>3</sup> )	Diameter (bbl)	Diameter (m)	Height (m)	Base Rate (\$)
8	50	2.36	1.83	<b>7 850</b>
14	90	2.41	3.05	<b>8 700</b>
16	100	2.90	2.44	<b>9 000</b>
33	210	3.05	4.57	<b>12 550</b>
48	300	3.66	4.57	<b>14 650</b>
64	400	3.66	6.10	<b>15 200</b>
79	500 (Low)	6.55	2.44	<b>18 050</b>
79	500 (High)	4.72	4.88	<b>17 100</b>
119	750	4.72	7.32	<b>19 900</b>
159	1 000 (Low)	9.07	2.44	<b>24 400</b>
159	1 000 (High)	6.55	4.88	<b>24 400</b>
238	1 500	6.55	7.32	<b>29 100</b>
318	2 000	9.07	4.88	<b>34 950</b>
397	2 500	9.07	6.10	<b>80 300</b>
477	3 000	9.07	7.32	<b>94 000</b>
636	4 000	10.52	7.32	<b>120 400</b>
795	5 000	11.79	7.32	<b>146 700</b>
1 590	10 000	16.76	7.32	<b>259 450</b>
3 179	20 000	20.42	9.75	<b>345 800</b>

**Rates include:** flat bottom, cone deck  
 flush-type cleanout door  
 thief hatch and vacuum relief  
 standard nozzles, manways and cleanouts  
 flanges, valves and piping  
 foundation bands and painting  
 installation

**Note:** 1 barrel (Oil, 42 US Gallons) = 0.158 987 m<sup>3</sup>

**2.010.200 STAIRWAYS—WALKWAYS—STILES**

<b>Stairway</b>	<b>Base Rate (\$ per m)</b>
4.3 m of rise or less	<b>395</b>
Over 4.3 m of rise	<b>370</b>

<b>Walkways or platforms</b>	<b>Base Rate (\$ per m)</b>
1.2 m wide metal	<b>280</b>

<b>Stiles</b>	<b>Base Rate (\$)</b>
Per stile over berm	<b>1 050</b>

**Rates include:** paint and installation

**2.010.300 STEEL WELDED UNDERGROUND TANKS**

<b>Volume (l)</b>	<b>(gal.)</b>	<b>(bbl)</b>	<b>Base Rate (\$)</b>
2 505	550	16	<b>7 550</b>
5 005	1 100	31	<b>7 900</b>
9 810	2 156	62	<b>13 400</b>
15 015	3 300	94	<b>13 950</b>
25 025	5 500	157	<b>23 150</b>
35 035	7 700	220	<b>24 800</b>
50 050	11 000	315	<b>37 650</b>

**Rates include:** excavation and backfill  
hold downs and concrete  
piping, flanges and valves  
installation

## 2.010.400 TANKS—INSULATION AND COATINGS

Insulation (mm)	Coating Type	Base Rate (\$ per m <sup>2</sup> )
	Epoxy internal coating	45.50
50.0	Fibreglass, c/w metal cladding	76.50
76.0	Fibreglass, c/w metal cladding	89.50
51.0	Urethane for fibreglass tanks c/w	32.50
6.35	Diathon coating	
25.0	Urethane Insulation, c/w sealer	45.00
38.0	Urethane Insulation, c/w sealer	48.00
50.0	Urethane Insulation, c/w sealer	51.50
63.0	Urethane Insulation, c/w sealer	56.00
76.0	Urethane Insulation, c/w sealer	60.00

**Rates include:** surface preparation  
installation

**Note:** Use the following formula to find the area of tank to be covered:

Horizontal Tank:

$$\text{Area} = (2 \times 3.14 \times r^2) + (2 \times 3.14 \times r \times l)$$

Vertical Tank (only one end and the cylinder):

$$\text{Area} = (1 \times 3.14 \times r^2) + (2 \times 3.14 \times r \times h)$$

Where: r = radius = ½ of diameter

l = length

h = height

**2.010.420 STEEL TANKS—FIBREGLASS INSULATION (50 MM)**

<b>Size (bbl)</b>	<b>Diameter X Height (m x m)</b>	<b>Base Rate (\$ per 50 mm)</b>
50	2.36 x 1.83	1 350
90	2.41 x 3.05	2 100
100	2.90 x 2.44	2 200
210	3.05 x 4.57	3 900
300	3.66 x 4.57	4 800
400	3.66 x 6.10	6 150
500(Low)	6.55 x 2.44	6 400
500(High)	4.72 x 4.88	6 850
750	4.72 x 7.32	9 650
1 000 (Low)	9.07 x 2.44	10 250
1 000 (High)	6.55 x 4.88	10 250
1 500	6.55 x 7.32	14 100
2 000	9.07 x 4.88	15 550
2 500	9.07 x 6.10	18 250
3 000	9.07 x 7.32	20 900
4 000	10.52 x 7.32	25 150
5 000	11.79 x 7.32	29 100
10 000	16.76 x 7.32	46 350
20 000	20.42 x 9.75	72 850

**2.010.430 STEEL TANKS—FIBREGLASS INSULATION (76 MM)**

<b>Size (bbl)</b>	<b>Diameter X Height (m x m)</b>	<b>Base Rate (\$ per 76 mm)</b>
50	2.36 x 1.83	1 600
90	2.41 x 3.05	2 450
100	2.90 x 2.44	2 600
210	3.05 x 4.57	4 550
300	3.66 x 4.57	5 650
400	3.66 x 6.10	7 200
500(Low)	6.55 x 2.44	7 500
500(High)	4.72 x 4.88	8 050
750	4.72 x 7.32	11 300
1 000 (Low)	9.07 x 2.44	12 000
1 000 (High)	6.55 x 4.88	12 000
1 500	6.55 x 7.32	16 500
2 000	9.07 x 4.88	18 200
2 500	9.07 x 6.10	21 350
3 000	9.07 x 7.32	24 450
4 000	10.52 x 7.32	29 400
5 000	11.79 x 7.32	34 000
10 000	16.76 x 7.32	54 200
20 000	20.42 x 9.75	85 250



**2.010.500 STEEL TANKS—URETHANE INSULATION (25 MM)**

<b>Size (bbl)</b>	<b>Diameter X Height (m x m)</b>	<b>Base Rate (\$ per 25 mm)</b>
50	2.36 x 1.83	<b>800</b>
90	2.41 x 3.05	<b>1 250</b>
100	2.90 x 2.44	<b>1 300</b>
210	3.05 x 4.57	<b>2 300</b>
300	3.66 x 4.57	<b>2 850</b>
400	3.66 x 6.10	<b>3 650</b>
500(Low)	6.55 x 2.44	<b>3 750</b>
500(High)	4.72 x 4.88	<b>4 050</b>
750	4.72 x 7.32	<b>5 650</b>
1 000 (Low)	9.07 x 2.44	<b>6 050</b>
1 000 (High)	6.55 x 4.88	<b>6 050</b>
1 500	6.55 x 7.32	<b>8 300</b>
2 000	9.07 x 4.88	<b>9 150</b>
2 500	9.07 x 6.10	<b>10 700</b>
3 000	9.07 x 7.32	<b>12 300</b>
4 000	10.52 x 7.32	<b>14 800</b>
5 000	11.79 x 7.32	<b>17 100</b>
10 000	16.76 x 7.32	<b>27 250</b>
20 000	20.42 x 9.75	<b>42 850</b>

**2.010.510 STEEL TANKS—URETHANE INSULATION (38 MM)**

<b>Size (bbl)</b>	<b>Diameter X Height (m x m)</b>	<b>Base Rate (\$ per 38 mm)</b>
50	2.36 x 1.83	850
90	2.41 x 3.05	1 350
100	2.90 x 2.44	1 400
210	3.05 x 4.57	2 450
300	3.66 x 4.57	3 050
400	3.66 x 6.10	3 850
500(Low)	6.55 x 2.44	4 050
500(High)	4.72 x 4.88	4 300
750	4.72 x 7.32	6 050
1 000 (Low)	9.07 x 2.44	6 450
1 000 (High)	6.55 x 4.88	6 450
1 500	6.55 x 7.32	8 850
2 000	9.07 x 4.88	9 750
2 500	9.07 x 6.10	11 450
3 000	9.07 x 7.32	13 100
4 000	10.52 x 7.32	15 800
5 000	11.79 x 7.32	18 250
10 000	16.76 x 7.32	29 100
20 000	20.42 x 9.75	45 700

**2.010.520 STEEL TANKS—URETHANE INSULATION (50 MM)**

<b>Size (bbl)</b>	<b>Diameter X Height (m x m)</b>	<b>Base Rate (\$ per 50 mm)</b>
50	2.36 x 1.83	900
90	2.41 x 3.05	1 400
100	2.90 x 2.44	1 500
210	3.05 x 4.57	2 650
300	3.66 x 4.57	3 250
400	3.66 x 6.10	4 150
500(Low)	6.55 x 2.44	4 300
500(High)	4.72 x 4.88	4 650
750	4.72 x 7.32	6 500
1 000 (Low)	9.07 x 2.44	6 900
1 000 (High)	6.55 x 4.88	6 900
1 500	6.55 x 7.32	9 500
2 000	9.07 x 4.88	10 500
2 500	9.07 x 6.10	12 250
3 000	9.07 x 7.32	14 050
4 000	10.52 x 7.32	16 950
5 000	11.79 x 7.32	19 600
10 000	16.76 x 7.32	31 200
20 000	20.42 x 9.75	49 050

**2.010.600 FIBREGLASS TANKS—VERTICAL**

Size (m <sup>3</sup> )	(bbl)	Base Rate (\$)
14.0	90	20 150
33.0	210	25 500
48.0	300	29 750
64.0	400	34 100
80.0	500	38 350
119.0	750	51 550

**2.010.620 FIBREGLASS TANKS—UNDERGROUND**

Size (m <sup>3</sup> )	(bbl)	Base Rate (\$)
2.3	14	9 400
4.6	29	10 200
7.9	50	13 050
16.0	100	16 500
32.0	200	26 550

**Rates include:** standard manway, nozzles and valves  
reinforcement installation

**2.010.640 FIBREGLASS TANKS—INSULATION**

Size (m <sup>3</sup> )	(bbl)	Base Rate (\$)
14.0	90	900
16.0	100	950
33.0	210	1 650
48.0	300	2 050
64.0	400	2 600
80.0	500	2 750
119.0	750	4 100

**Rates include:** 51.0 mm urethane with  
6.35 mm Diathon coating  
preparation and installation

**2.010.700 STEEL POP TANKS—RECTANGULAR**

Size (m <sup>3</sup> )	(bbl)	Base Rate (\$)
8.0	50	8 900
16.0	100	10 200
33.0	210	16 350
64.0	400	19 450

**Rates include:** painting and steel skids

**2.010.720 LPG STEEL TANKS**

Size (m <sup>3</sup> )	(US gal.)	Base Rate (\$)
1.9	500	<b>3 750</b>
3.8	1 000	<b>6 200</b>
5.7	1 500	<b>18 850</b>
8.0	2 000	<b>22 650</b>
19.0	5 000	<b>49 550</b>
34.0	9 100	<b>55 900</b>
45.0	12 000	<b>63 200</b>
68.0	18 000	<b>76 600</b>
114.0	30 000	<b>96 750</b>

**Rates include:** manway, piping and flanges  
valves and instrumentation  
foundation and installation

**Note:** one US gallon equals 3.8 litres.

Steel ladder and Platform	Base Rate (\$)
<b>Add each</b>	<b>3 300</b>

**2.010.800 STEEL CHEMICAL STORAGE TANKS**

Size (l)	(Imp. gal.)	Base Rate (\$)
1 365	300	<b>1 550</b>
2 275	500	<b>1 700</b>
4 550	1 000	<b>2 650</b>

**Rates include:** painting and installation

**2.010.820 PLASTIC CHEMICAL STORAGE TANKS**

Size (l)	(Imp. gal.)	Base Rate (\$)
410	90	<b>1 650</b>
819	180	<b>1 800</b>
910	200	<b>1 850</b>
1 000	220	<b>1 900</b>
1 365	300	<b>2 050</b>
2 275	500	<b>2 300</b>
3 412	750	<b>2 950</b>
4 550	1 000	<b>3 150</b>
6 825	1 500	<b>4 150</b>

**Rates include:** piping, valves, stand, and straps  
Installation

**2.020 HEATERS, GAUGES, AND SWITCHES****2.020.100 TANK HEATERS**

Rating (kW)	(Btu)	Base Rate (\$)
73 kW & smaller	250 000	<b>3 300</b>
147 kW	500 000	<b>3 750</b>

**Rates include:** flame arrestor  
stack  
burning equipment  
installation

**Note:** 3412.14 Btu/h = 1 kW

**2.020.200 INDIRECT FIRED LINE HEATERS**

Rating (kW)	(Btu/h)	Diameter (mm)	Length (m)	Base Rate (\$)
73	250 000	610	2.3	<b>20 600</b>
147	500 000	660	3.5	<b>23 500</b>
220	750 000	762	4.1	<b>26 150</b>
293	1 000 000	914	4.4	<b>30 850</b>
440	1 500 000	1 118	5.6	<b>36 900</b>
586	2 000 000	1 219	6.6	<b>52 450</b>
879	3 000 000	1 524	7.5	<b>66 350</b>
1 172	4 000 000	1 829	8.4	<b>87 300</b>
1 465	5 000 000	2 134	8.7	<b>127 450</b>
1 758	6 000 000	2 337	8.7	<b>169 200</b>

**Rates include:** fire tube, burners and pilot  
flame arrestor, stack and fuel gas manifold  
fuel gas scrubber, ball valve, PSV and pressure gauge  
values, regulator, temperature controller  
high temperature switch, thermometer and expansion drum  
thief hatch, gauge glass and insulation  
skids and installation

**Note:** 3412.14 Btu/h = 1 kW  
Direct Heaters are considered obsolete

**2.020.300 TANK GAUGES**

Type	Base Rate (\$)
Varec 2500 automatic	<b>3 150</b>

**Rates include:** aluminium gauge head  
guide piping, elbows,  
brackets and anchor bar  
installation

**2.020.400 LEVEL SWITCHES**

Type	Base Rate (\$)
Roof Mount	1 600
Static Pressure Sensing	1 400

**Rates include:** electrical tubing, valves and flanges installation

**2.030 TREATERS****2.030.100 VERTICAL**

Diameter (m)	(ft)	Height (m)	(ft)	Pressure (kPa)	(psi)	Base Rate (\$)
1.22	4	6.1	20.0	345	50	51 000
1.22	4	8.4	27.5	345	50	56 350
1.83	6	6.1	20.0	345	50	56 950
1.83	6	8.4	27.5	345	50	63 250
2.44	8	6.1	20.0	345	50	74 050
2.44	8	8.4	27.5	345	50	83 100
3.05	10	6.1	20.0	345	50	86 700
3.05	10	8.4	27.5	345	50	98 000
1.22	4	6.1	20.0	517	75	56 300
1.22	4	8.4	27.5	517	75	62 350
1.83	6	6.1	20.0	517	75	63 100
1.83	6	8.4	27.5	517	75	70 200
2.44	8	6.1	20.0	517	75	82 400
2.44	8	8.4	27.5	517	75	92 550
3.05	10	6.1	20.0	517	75	96 800
3.05	10	8.4	27.5	517	75	109 500

**Rates include:** fire tube, flame arrestor, stack, anodes, fuel gas system c/w scrubber, thermostats, regulators and valves, ladder, crownsnest water siphon, thermometer, pressure gauge, gauge glass, water outlet valve, oil outlet valve, oil, gas and water meters, gas back pressure valve, relief valve, insulation, skid, and installation

**Note:** 6.894757 pound force per square inch = 1 Kilopascal (kPa)

**2.030.200 MECHANICAL–HORIZONTAL**

Diameter (m)	(ft)	Height (m)	(ft)	Pressure (kPa)	(psi)	Base Rate (\$)
1.83	6	6.1	20	345	50	113 950
2.44	8	6.1	20	345	50	126 950
2.44	8	7.6	25	345	50	140 900
2.44	8	9.1	30	345	50	188 650
3.05	10	9.1	30	345	50	202 050
3.05	10	12.2	40	345	50	218 650
3.05	10	15.2	50	345	50	233 550
3.05	10	21.3	70	345	50	303 100
1.83	6	6.1	20	517	75	126 050
2.44	8	6.1	20	517	75	139 050
2.44	8	7.6	25	517	75	146 950
2.44	8	9.1	30	517	75	200 750
3.05	10	9.1	30	517	75	214 150
3.05	10	12.2	40	517	75	230 750
3.05	10	15.2	50	517	75	257 750
3.05	10	21.3	70	517	75	327 300

**2.030.300 ELECTROSTATIC/DUAL POLARITY–HORIZONTAL**

Diameter (m)	(ft)	Height (m)	(ft)	Pressure (kPa)	(psi)	Base Rate (\$)
1.83	6	6.1	20	345	50	134 250
2.44	8	6.1	20	345	50	147 300
2.44	8	7.6	25	345	50	161 250
2.44	8	9.1	30	345	50	208 950
3.05	10	9.1	30	345	50	228 450
3.05	10	12.2	40	345	50	245 050
3.05	10	15.2	50	345	50	263 200
3.05	10	21.3	70	345	50	332 750
1.83	6	6.1	20	517	75	146 350
2.44	8	6.1	20	517	75	159 400
2.44	8	7.6	25	517	75	167 300
2.44	8	9.1	30	517	75	221 050
3.05	10	9.1	30	517	75	240 550
3.05	10	12.2	40	517	75	257 150
3.05	10	15.2	50	517	75	287 400
3.05	10	21.3	70	517	75	356 950

**Rates include:** fire tube, flame arrestor, stack, anodes,  
fuel gas system c/w scrubber, thermostats,  
regulators and valves  
ladder, crow's nest water siphon,  
thermometer, pressure gauge, gauge glass,  
water outlet valve, oil outlet valve,  
oil, gas and water meters,  
gas back pressure valve, relief valve,  
insulation, skid, and installation

**2.040 SEPARATORS****2.040.100 VERTICAL 2-PHASE**

<b>862–1896 kPa (125 psi - 275 psi)</b>				
<b>Diameter</b>		<b>Height</b>		<b>Base Rate</b>
<b>(mm)</b>	<b>(in.)</b>	<b>(m)</b>	<b>(ft)</b>	<b>(\$)</b>
300	12	1.5	5.0	<b>27 500</b>
400	16	1.5	5.0	<b>28 150</b>
500	20	1.5	5.0	<b>28 750</b>
600	24	1.5	5.0	<b>34 200</b>
750	30	1.5	5.0	<b>36 250</b>
900	36	1.5	5.0	<b>38 300</b>
400	16	2.3	7.5	<b>28 950</b>
500	20	2.3	7.5	<b>29 600</b>
600	24	2.3	7.5	<b>35 200</b>
750	30	2.3	7.5	<b>37 350</b>
900	36	2.3	7.5	<b>39 550</b>

<b>5102 kPa (740 psi)</b>				
<b>Diameter</b>		<b>Height</b>		<b>Base Rate</b>
<b>(mm)</b>	<b>(in.)</b>	<b>(m)</b>	<b>(ft)</b>	<b>(\$)</b>
400	16	1.5	5.0	<b>28 750</b>
500	20	1.5	5.0	<b>29 950</b>
600	24	1.5	5.0	<b>35 400</b>
750	30	1.5	5.0	<b>37 600</b>

<b>10204 kPa (1480 psi)</b>				
<b>Diameter</b>		<b>Height</b>		<b>Base Rate</b>
<b>(mm)</b>	<b>(in.)</b>	<b>(m)</b>	<b>(ft)</b>	<b>(\$)</b>
400	16	1.5	5.0	<b>29 200</b>
500	20	1.5	5.0	<b>30 800</b>
600	24	1.5	5.0	<b>37 100</b>
750	30	1.5	5.0	<b>39 550</b>
400	16	2.3	7.5	<b>29 950</b>
500	20	2.3	7.5	<b>31 750</b>
600	24	2.3	7.5	<b>37 850</b>
750	30	2.3	7.5	<b>40 400</b>
900	36	2.3	7.5	<b>42 900</b>



**2.040.200 VERTICAL 3-PHASE**

<b>862–1896 kPa (125 psi – 275 psi)</b>				
<b>Diameter (mm)</b>	<b>(in.)</b>	<b>Height (m)</b>	<b>(ft)</b>	<b>Base Rate (\$)</b>
400	16	2.3	7.5	<b>32 700</b>
500	20	2.3	7.5	<b>33 300</b>
600	24	2.3	7.5	<b>39 750</b>
750	30	2.3	7.5	<b>41 900</b>
900	36	2.3	7.5	<b>44 100</b>
1 200	48	2.3	7.5	<b>49 700</b>
500	20	3.0	10.0	<b>34 400</b>
600	24	3.0	10.0	<b>41 050</b>
900	36	3.0	10.0	<b>45 650</b>
1 200	48	3.0	10.0	<b>51 400</b>
1 500	60	3.0	10.0	<b>56 600</b>

<b>10204 kPa (1480 psi)</b>				
<b>Diameter (mm)</b>	<b>(in.)</b>	<b>Height (m)</b>	<b>(ft)</b>	<b>Base Rate (\$)</b>
400	16	2.3	7.5	<b>33 650</b>
500	20	2.3	7.5	<b>35 500</b>
600	24	2.3	7.5	<b>42 400</b>
900	36	2.3	7.5	<b>47 450</b>
1 200	48	2.3	7.5	<b>75 000</b>
400	16	3.0	10.0	<b>35 750</b>
600	24	3.0	10.0	<b>45 050</b>
900	36	3.0	10.0	<b>50 750</b>
1 200	48	3.0	10.0	<b>80 950</b>

**2.040.300 HORIZONTAL 2-PHASE**

<b>862–1896 kPa (125 psi - 275 psi)</b>				
<b>Diameter (mm)</b>	<b>(in.)</b>	<b>Height (m)</b>	<b>(ft)</b>	<b>Base Rate (\$)</b>
600	24	3.0	10.0	<b>25 650</b>
750	30	3.0	10.0	<b>27 800</b>
900	36	3.0	10.0	<b>29 900</b>

<b>10204 kPa (1480 psi)</b>				
<b>Diameter (mm)</b>	<b>(in.)</b>	<b>Height (m)</b>	<b>(ft)</b>	<b>Base Rate (\$)</b>
500	20	3.0	10.0	<b>25 700</b>
600	24	3.0	10.0	<b>29 300</b>
750	30	3.0	10.0	<b>32 000</b>
900	36	3.0	10.0	<b>34 700</b>

## 2.040.400 HORIZONTAL 3-PHASE

862–1896 kPa (125 psi - 275 psi)				
Diameter (mm)	(in.)	Height (m)	(ft)	Base Rate (\$)
600	24	3.0	10.0	32 600
750	30	3.0	10.0	34 750
900	36	3.0	10.0	36 850

10204 kPa (1480 psi)				
Diameter (mm)	(in.)	Height (m)	(ft)	Base Rate (\$)
600	24	3.0	10.0	36 250
750	30	3.0	10.0	39 000
900	36	3.0	10.0	41 700

**Rates include:** liquid dump valves, block valves and fittings  
level controllers and high level switch  
gas valve pipe and fittings  
PSV, pressure gauge and gauge glass  
water boot (on 3 Phase horizontal)  
senior orifice fitting and meter run  
flow recorder  
skids and saddles  
thermometer and installation

## 2.040.500 VERTICAL CENTRIFUGAL/RECYCLING

10204 kPa (1480 psi <sup>2</sup> )				
Diameter (mm)	(in.)	Height (m)	(ft)	Base Rate (\$)
150	6	1.5	5.0	30 850
200	8	1.5	5.0	36 700
300	12	1.5	5.0	41 900
400	16	2.6	8.5	51 850
600	24	3.7	12.0	90 300
800	32	4.6	15.0	114 350

**Rates include:** gas back pressure valve and controller  
flow recorder and valve manifold  
senior orifice fitting and meter run  
pressure relief valve  
water level controller and gauge  
water dump valve and flow meter  
temperature and pressure gauges  
gas regulators, filter and scrubber  
ball valves piping and flanges  
installation

**Note:** Use the following table to cross reference American National Standards Institute (ANSI) ratings to working pressure:

**WORKING PRESSURE****Service Temperature****-28.9 to 37.8C (-20 to 100F)**

<b>ANSI</b>	<b>kPa</b>	<b>psi</b>
150	1 896	275
300	5 102	740
600	10 204	1 480
900	14 893	2 160
1 500	24 821	3 600
2 500	41 369	6 000

**2.040.600****ENVIRONMENTAL LOW STAGE SEPARATOR TANK UNITS**

<b>Size (bbl)</b>	<b>Base Rate (\$)</b>
50	<b>46 750</b>
100	<b>71 550</b>

**Rates include:** sand frac flow back vessel  
piping and frac tees  
75 or 100 mm meter run  
dry flow meter  
sand diffuser  
ladder, hatches and pad  
installation

**2.040.700****PRE-FABRICATED ENVIRONMENTAL BATTERY UNITS**

<b>Low pressure Unit (48kPa)</b>	<b>Lines &amp; Meter Runs (mm)</b>	<b>Base Rate (\$)</b>
Standard Unit unheated	50	<b>42 600</b>
Standard Unit unheated	75	<b>44 250</b>
Heated Unit	50	<b>47 550</b>
Heated Unit	75	<b>49 200</b>
Treating Unit	50	<b>60 750</b>
Treating Unit	75	<b>62 400</b>
Companion Storage Tank	<b>add each</b>	<b>25 400</b>

**Standard Unit**

**Rates include:** 500 barrel used railway oil tank car horizontal separator  
high level and high pressure shut off valves  
dry flow recorders and fluid level indicators  
flow lines, meter, flare lines  
100 mm x12.2 m flare stack, ignition and arrestor  
steel skids and saddles  
weir plank pad and installation

**Heated Unit**

**Rates include:** 250 mm fire tube, burner and pilot light  
 500 barrel used railway oil tank car horizontal separator  
 high level and high pressure shut off valves  
 dry flow recorders and fluid level indicators  
 flow lines, meter, flare lines  
 100 mm x12.2 m flare stack, ignition and arrestor  
 steel skids and saddles  
 weir plank pad and installation

**Treating Unit**

**Rates include:** degassers and down comers  
 spreader pan and baffle plates  
 individual fluid level gauges for oil, gas and water  
 500 barrel used railway oil tank car horizontal separator  
 high level and high pressure shut off valves  
 dry flow recorders and fluid level indicators  
 flow lines, meter, flare lines  
 100 mm x12.2 m flare stack, ignition and arrestor  
 steel skids and saddles  
 weir plank pad and installation

**Companion Storage Tank**

**Rates include:** extension of site work, weir, pad and installation  
 steel skids and saddles  
 connecting piping to main unit  
 meters, valves and indicators

High Pressure Unit (345 kPa)	Lines & Meter Runs (mm)	Base Rate (\$)
Standard Unit, Unheated	75	110 050

**Rates include:** 500 barrel welded tank, horizontal separator  
 high level and high pressure shut off valves  
 dry flow recorders and fluid level indicators  
 flow lines, meter, flare lines  
 100 mm x12.2 m flare stack, ignition and arrestor  
 steel skids and saddles  
 weir plank pad and installation

**2.050**

**FUEL GAS SCRUBBERS**

	Base Rate (\$)
All Sizes	2 500

**Rates include:** block valve, shutoff valve  
 relief valve and pressure gauge  
 piping and high level switch  
 installation

**2.060 FREE WATER KNOCKOUTS**

Diameter (m)	(ft)	Length (m)	(ft)	Base Rate (\$)
1.83	6.0	3.0	10.0	<b>105 450</b>
1.83	6.0	4.6	15.0	<b>111 500</b>
2.44	8.0	4.6	15.0	<b>123 600</b>
3.05	10.0	6.1	20.0	<b>150 150</b>
3.05	10.0	9.1	30.0	<b>162 250</b>
3.05	10.0	12.2	40.0	<b>237 800</b>

**Rates include:** dump valve  
 block valve  
 pipe fittings and flanges  
 level controllers  
 gas back pressure valve  
 gauge glass and pressure gauge  
 PSV and thermometer  
 skids and installation

**2.070 GAS BOOTS**

Diameter (mm)	(in.)	Base Rate (\$)
600	24	<b>28 700</b>
750	30	<b>31 500</b>
900	36	<b>33 500</b>
1 050	42	<b>38 050</b>
1 200	48	<b>40 600</b>
1 500	60	<b>45 950</b>

**Rates include:** guy wires  
 pressure gauge, PSV and block valve  
 piping, flanges and fittings  
 steel caged ladder and top platform  
 foundation and installation

**Note:** Average heights used are 9.1 to 12.2 m (30 to 40 feet).

**2.080 FLARE SYSTEMS****2.080.100 VENT STACKS 100 MM (4 IN.) STACK**

Height (m)	(ft)	Base Rate (\$)
9.1	30	<b>11 050</b>
12.2	40	<b>11 250</b>
15.2	50	<b>11 650</b>
18.3	60	<b>15 250</b>

**2.080.120 VENT STACKS 150 MM (6 IN.) STACK**

Height (m)	(ft)	Base Rate (\$)
9.1	30	14 250
12.2	40	14 500
15.2	50	14 850
18.3	60	16 200

**2.080.140 VENT STACKS 203 MM (8 IN.) STACK**

Height (m)	(ft)	Base Rate (\$)
9.1	30	17 500
12.2	40	17 750
15.2	50	18 100
18.3	60	20 750

**2.080.200 FLARE STACKS PILOT & SHOTTUBE 100 MM (4 IN.) STACK**

Height (m)	(ft)	Base Rate (\$)
9.1	30	13 200
12.2	40	13 450
15.2	50	13 950
18.3	60	17 700

**2.080.220 FLARE STACKS PILOT & SHOTTUBE 150 MM (6 IN.) STACK**

Height (m)	(ft)	Base Rate (\$)
9.1	30	16 450
12.2	40	16 650
15.2	50	17 150
18.3	60	19 700

**2.080.240 FLARE STACKS PILOT & SHOTTUBE 200 MM (8 IN.) STACK**

Height (m)	(ft)	Base Rate (\$)
9.1	30	19 650
12.2	40	19 900
15.2	50	20 650
18.3	60	23 150

**2.080.300 FLARE STACKS—MANUAL OR AUTOMATIC OR SOLAR IGNITER 100 MM (4 IN.) STACK**

Height (m)	(ft)	Base Rate (\$)
9.1	30	15 300
12.2	40	15 950
15.2	50	16 550
18.3	60	20 500

**2.080.320 FLARE STACKS—MANUAL OR AUTOMATIC OR SOLAR IGNITER 150 MM (6 IN.) STACK**

Height (m)	(ft)	Base Rate (\$)
9.1	30	18 550
12.2	40	19 150
15.2	50	19 750
18.3	60	22 550

**2.080.340 FLARE STACKS—MANUAL OR AUTOMATIC OR SOLAR IGNITER 200 MM (8 IN.) STACK**

Height (m)	(ft)	Base Rate (\$)
9.1	30	21 800
12.1	40	22 400
15.2	50	23 350
18.2	60	26 000

**Rates include:** flare tips  
 base and foundation  
 piping and flange  
 regulator, valve and gauge  
 retractable assembly  
 electric service, flame failure switch  
 guy wires and installation

**2.080.500 INCINERATORS**

Height (m)	(ft)	Base Rate (\$)
14.3	47	87 350
15.2	50	90 150
18.3	60	99 350
21.3	70	108 500
24.4	80	117 700
27.4	90	126 900
28.6	94	130 600

**Rates include:** stack, guy wires and incinerator  
 piping and flange and electric ignition and switch  
 base and installation

**2.090 COMPRESSORS****2.090.100 VAPOUR RECOVERY –BLOWER**

Size (kW)	(hp)	Base Rate (\$)
1.5	2	12 500
3.7	5	19 750
7.5	10	29 600

**2.090.200 VAPOUR RECOVERY–SINGLE STAGE**

Size (kW)	(hp)	Base Rate (\$)
3.7	5	40 000
11.0	15	50 200
18.7	25	68 050
37.3	50	82 700
74.6	100	119 900
111.9	150	160 550

**2.090.300 VAPOUR RECOVERY–TWO STAGE**

Size (kW)	(hp)	Base Rate (\$)
11.0	15	76 050
18.7	25	88 650
37.3	50	120 850
56.0	75	156 700
74.6	100	192 750
93.3	125	202 600
111.9	150	212 150

**Rates include:** compressor package  
inlet separator  
piping, flanges and fittings  
controls  
lube system  
skids and installation

**Note:** Horsepower (electric) x 0.746 = Kilowatt (kW)



**2.090.400 GAS COMPRESSORS—TWO STAGE ELECTRIC DRIVE—PACKAGED**

Size (kW)	(hp)	Base Rate (\$)
14.9	20	<b>95 800</b>
37.3	50	<b>96 300</b>
44.8	60	<b>152 550</b>
74.6	100	<b>157 700</b>
93.3	125	<b>182 700</b>
149.2	200	<b>195 100</b>
223.8	300	<b>263 700</b>
additional stages each add		<b>30 250</b>

**Rates include:** compressor package  
 discharge air exchanger each stage  
 suction scrubber  
 controls, control panel  
 electrical and switches  
 electric motor and drive  
 piping, flanges and fittings  
 skids and installation

**2.090.500 GAS COMPRESSORS—TWO STAGE GAS DRIVE—PACKAGED**

Size (kW)	(hp)	Base Rate (\$)
14.9	20	<b>112 700</b>
37.3	50	<b>112 700</b>
44.8	60	<b>179 450</b>
74.6	100	<b>189 050</b>
93.3	125	<b>212 550</b>
149.2	200	<b>244 850</b>
223.8	300	<b>331 000</b>
additional stages each add		<b>30 250</b>

**Rates include:** compressor package  
 discharge air exchanger each stage  
 suction scrubber  
 controls, control panel and switches  
 gas motor and drive  
 piping, flanges and fittings  
 skids and installation

**2.100 PUMPS****2.100.100 VERTICAL TURBINE PUMPS**

Inlet (mm)	(in.)	Motor (kW)	(hp)	Base Rate (\$)
100	4	1.5	2.0	<b>7 600</b>
100	4	2.2	3.0	<b>7 900</b>
100	4	3.7	5.0	<b>8 750</b>
100	4	5.6	7.5	<b>9 900</b>
150	6	2.2	3.0	<b>8 150</b>
150	6	3.7	5.0	<b>9 300</b>
150	6	5.6	7.5	<b>10 300</b>
150	6	7.5	10.0	<b>10 700</b>
150	6	11.2	15.0	<b>12 050</b>
150	6	14.9	20.0	<b>13 400</b>
150	6	18.7	25.0	<b>13 900</b>
150	6	22.4	30.0	<b>15 250</b>

**Rates include:** pump and base plate  
explosion proof electric motor and drive assembly  
piping, couplings, flanges and valves  
electrical service and motor switch  
installation

**2.100.200 CENTRIFUGAL PUMPS—END SUCTION**

Inlet (mm)	(in.)	Motor (kW)	(hp)	Base Rate (\$)
38	1.5	1.5	2.0	<b>6 050</b>
38	1.5	2.2	3.0	<b>6 200</b>
38	1.5	3.7	5.0	<b>6 300</b>
75	3.0	1.5	2.0	<b>6 200</b>
75	3.0	2.2	3.0	<b>6 350</b>
75	3.0	3.7	5.0	<b>6 450</b>
100	4.0	2.2	3.0	<b>8 450</b>
100	4.0	3.7	5.0	<b>8 600</b>
100	4.0	5.6	7.5	<b>8 850</b>
100	4.0	7.5	10.0	<b>9 500</b>
100	4.0	11.2	15.0	<b>10 300</b>

**Rates include:** pumps and base plates  
explosion proof motor and drive assembly  
piping, couplings, flanges and valves  
electrical service and motor switch  
installation

**2.100.300 CENTRIFUGAL PUMPS—VERTICAL INLINE**

Inlet (mm)	(in.)	Motor (kW)	(hp)	Base Rate (\$)
50	2.0	1.5	2.0	<b>6 650</b>
50	2.0	2.2	3.0	<b>6 800</b>
50	2.0	3.7	5.0	<b>6 900</b>
75	3.0	1.5	2.0	<b>6 900</b>
75	3.0	2.2	3.0	<b>7 050</b>
75	3.0	3.7	5.0	<b>7 150</b>
100	4.0	2.2	3.0	<b>9 500</b>
100	4.0	3.7	5.0	<b>9 650</b>
100	4.0	5.6	7.5	<b>9 900</b>
100	4.0	7.5	10.0	<b>10 600</b>
100	4.0	11.2	15.0	<b>11 600</b>

**Rates include:** pumps and base plates  
explosion proof motor and drive assembly  
piping, couplings, flanges and valves  
electrical service and motor switch  
installation

**2.100.400 ROTARY GEAR PUMPS**

Inlet (mm)	(in.)	Motor (kW)	(hp)	Base Rate (\$)
38	1.5	1.5	2.0	<b>5 250</b>
38	1.5	2.2	3.0	<b>5 400</b>
38	1.5	3.7	5.0	<b>5 500</b>
63	2.5	1.5	2.0	<b>7 250</b>
63	2.5	2.2	3.0	<b>7 400</b>
63	2.5	3.7	5.0	<b>7 500</b>
75	3.0	7.5	10.0	<b>8 250</b>
75	3.0	11.2	15.0	<b>8 800</b>

**Rates include:** pump, base plates and mechanical seal  
explosion proof motor and drive assembly  
piping, couplings and flanges  
valves and PSV  
electrical service and motor switch  
paint and installation

**2.100.500 PROGRESSIVE CAVITY PUMPS**

Inlet (mm)	(in.)	Motor (kW)	(hp)	Base Rate (\$)
50	2.0	1.5	2.0	<b>8 250</b>
63	2.5	2.2	3.0	<b>9 150</b>
75	3.0	2.2	3.0	<b>10 000</b>
100	4.0	3.7	5.0	<b>14 200</b>
150	6.0	5.6	7.5	<b>15 900</b>
150	6.0	7.5	10.0	<b>16 150</b>
150	6.0	11.2	15.0	<b>16 700</b>

**Rates include:** pump, base plates and mechanical seal  
steel rotor and stator, pin joints  
explosion proof motor, drive assembly and guard  
piping, couplings and flanges  
valves and PSV  
electrical service and motor switch  
paint and installation

**2.100.600 PISTON / PLUNGER PUMPS**

Type	Motor (kW)	(hp)	Base Rate (\$)
Simplex	3.7	5.0	<b>8 400</b>
Duplex	7.5	10.0	<b>11 950</b>
Triplex	11.2	15.0	<b>12 750</b>
Triplex	22.4	30.0	<b>22 250</b>
Triplex	37.3	50.0	<b>26 150</b>
Triplex	74.6	100.0	<b>40 900</b>
Quintuplex	22.4	30.0	<b>24 550</b>
Quintuplex	37.3	50.0	<b>29 750</b>
Quintuplex	56.0	75.0	<b>41 600</b>
Quintuplex	74.6	100.0	<b>49 300</b>
Quintuplex	186.5	250.0	<b>124 700</b>

**Rates include:** pump, base plates and mechanical seal  
explosion proof motor, drive assembly and guard  
piping, couplings and flanges  
valves and PSV  
electrical service and motor switch  
paint and installation  
equipment skids for 30 hp and larger

**2.100.700 WATERFLOOD PUMPS**

Type	Motor (kW)	(hp)	Base Rate (\$)
Triplex	22.4	30	<b>29 950</b>
Triplex	44.8	60	<b>36 000</b>
Triplex	74.6	100	<b>56 200</b>
Triplex	123.1	165	<b>79 250</b>
Triplex	149.2	200	<b>91 400</b>
Triplex	279.8	375	<b>231 500</b>
Quintuplex	186.5	250	<b>122 150</b>
Quintuplex	223.8	300	<b>146 800</b>
Quintuplex	373.0	500	<b>275 950</b>
Quintuplex	466.3	625	<b>298 850</b>

**Rates include:** pump, base plates and mechanical seal  
explosion proof motor, drive assembly and guard  
piping, couplings and flanges  
valves and PSV  
electrical service and motor switch  
paint and installation  
equipment skids for 30 hp and larger

**Note:** Horsepower (electric) x 0.746 = 1 kW

**2.110 AIR COMPRESSORS****2.110.100 UTILITY AIR COMPRESSORS**

Size (kW)	(hp)	Base Rate (\$)
1.5	2.0	<b>4 950</b>
3.7	5.0	<b>5 550</b>
7.5	10.0	<b>7 350</b>
11.2	15.0	<b>8 000</b>

**Rates include:** reciprocating compressor  
lubricated, 2 stage  
air receiver and motor  
electrical and switch  
piping, flange and installation

**2.110.200 INSTRUMENT AIR COMPRESSORS—RECIPROCATING**

Size (kW)	(hp)	Base Rate (\$)
3.7	5.0	<b>10 050</b>
7.5	10.0	<b>12 150</b>
11.2	15.0	<b>14 900</b>

**Rates include:** reciprocating compressor  
air receiver and electric motor  
electrical and switch  
after cooler, air dryer package  
piping, flange and installation

**2.110.300 INSTRUMENT AIR COMPRESSORS—ROTARY SCREW**

Size (kW)	(hp)	Base Rate (\$)
11.2	15.0	17 950
18.7	25.0	22 900
37.3	50.0	34 100
74.6	100.0	57 300

**Rates include:** lubricated oil injection compressor receiver and electric motor  
electrical and switch  
oil separator with pump  
after cooler, air dryer package  
piping, flange and installation

**2.120 CHEMICAL INJECTORS****2.120.100 ELECTRIC DRIVE**

Single Head—6 mm			
Motor (kW)	(hp)	Phases	Base Rate (\$)
0.19	0.25	1	2 200
0.19	0.25	3	3 400
0.37	0.50	1	2 300
0.37	0.50	3	3 500

Two Heads—6 mm			
Motor (kW)	(hp)	Phases	Base Rate (\$)
0.19	0.25	1	2 450
0.19	0.25	3	3 600
0.37	0.50	1	2 500
0.37	0.50	3	3 700

**Rates include:** pump and base  
electric motor and service  
tubing  
installation

**2.120.200 AIR/GAS DRIVERS**

Plunger Size (mm)	(in.)	Base Rate (\$)
6	0.25	2 800
12	0.50	2 800
19	0.75	2 950
25	1.00	3 000
31	1.25	3 400

**Rates include:** pump and base  
tubing, couplings  
installation

**2.120.300 OSCILLAMATIC**

Size	Base Rate (\$)
All sizes	1 900

**2.130 CONTROL VALVES**

**2.130.100 EMERGENCY SHUTDOWN VALVES (ESD)**

Type	Size (mm) (in.)		Base Rate (\$)
WKM Ball Valve	60	2	2 950
	89	3	4 200
	114	4	6 700
	168	6	11 200

**Rates include:** valve and actuator  
 high/low pressure pilot switch  
 flanges and tubing  
 installation

**2.130.200 2-WAY PNEUMATIC VALVES**

Valve size (mm)	ANSI size (in.)	Actuator size	Base Rate (\$)
25	1.0	Level Control Valve	1 900
25	1.0	NPT 30	3 300
25	1.0	300 30	3 750
25	1.0	600 30	3 800
38	1.5	NPT 34	3 950
38	1.5	300 34	4 450
38	1.5	600 34	4 600
50	2.0	300 40	5 050
50	2.0	600 45	5 300
75	3.0	300 45	6 950
75	3.0	600 45	7 000
100	4.0	300 45	8 700
100	4.0	600 45	8 950
150	6.0	300 70	15 150
150	6.0	600 70	15 800

**Rates include:** valve and actuator  
 level controller and pilot switch  
 flanges and tubing  
 installation

**Note:** 3-Way Pneumatic Valves are considered obsolete.

**2-Way Electric** - valve actuation      **add 170**  
**3-Way Electric** - valve actuation      **add 280**

**2.130.300 INTERMITTER–TIME CYCLE CONTROLLER**

Size (mm)	Base Rate (\$)
51	4 440
76	5 480
102	6 620
152	10 120

**2.140 CHOKES****2.140.100 WELLHEAD/MANIFOLDS–WILLIS MANUAL**

Size (mm)	(in.)	Model	Base Rate (\$)
33	1	M-1A	1 200
60	2	M-2	2 450
89	3	M-3	5 350
114	4	M-4	5 800

**Rates include:** installation

**2.140.200 WELLHEAD/MANIFOLDS–MASTER FLO MANUAL**

Size (mm)	(in.)	Model	Base Rate (\$)
33	1	P-1	1 800
60	2	P-2	2 450
89	3	P-3	4 550
114	4	P-4	13 750
168	6	P-6	29 350

**Rates include:** installation

**2.140.300 WELLHEAD/MANIFOLDS–WILLIS PNEUMATIC**

Size (mm)	(in.)	Model	Base Rate (\$)
33	1	M-1A	3 200
60	2	PA-2	4 450
89	3	M-3	8 150
114	4	M-4	8 900
Pressure		add	2 120

**Rates include:** valve and actuator  
tubing and flanges  
installation



**2.140.400 WELLHEAD/MANIFOLDS—MASTER FLO PNEUMATIC**

Size (mm)	Model (in.)	Base Rate (\$)
33	1 P-1	<b>3 300</b>
60	2 P-2	<b>4 350</b>
89	3 P-3	<b>8 750</b>
114	4 P-4	<b>19 150</b>
168	6 P-6	<b>34 700</b>
Pressure	<b>Add</b>	<b>2 120</b>

**Rates include:** valve and actuator  
tubing and flanges  
installation

**2.150 ORIFICE FITTING AND METER RUNS****2.150.100 SENIOR**

Size (mm)	(in.)	Base Rate (\$)
60	2	<b>4 750</b>
89	3	<b>5 200</b>
114	4	<b>5 950</b>
168	6	<b>7 450</b>
219	8	<b>10 250</b>
273	10	<b>13 000</b>

**Rates include:** orifice fittings, plate and holder  
meter run and flanges  
tubes and couplings  
installation

**2.150.200 SIMPLEX**

Size (mm)	(in.)	Base Rate (\$)
60	2	<b>1 700</b>
89	3	<b>2 000</b>
114	4	<b>2 600</b>
168	6	<b>3 650</b>
219	8	<b>6 200</b>
273	10	<b>8 850</b>

**Rates include:** orifice fittings and plate  
meter run and flanges  
plate holder  
tubes and couplings  
installation

**2.160 METERING AND ANALYSIS****2.160.100 MECHANICAL LIQUID METERS**

Type	Size		Base Rate (\$)
	(mm)	(in.)	
Barton FL 10*	33	1.0	<b>1 550</b>
Barton Flotrac 306	33	1.0	<b>1 050</b>
Barton Flotrac 380	33	1.0	<b>1 050</b>
Floco F-2500	33	1.0	<b>1 750</b>
Floco 382 NPT	60	2.0	<b>5 250</b>
Floco 382 600 ANSI	60	2.0	<b>6 950</b>
Floco 383 NPT	89	3.0	<b>5 250</b>
Floco 383 600 ANSI	89	3.0	<b>7 650</b>
Automatic Sampler–sweet service	<b>add</b>		<b>1 260</b>
Automatic Sampler–sour service	<b>add</b>		<b>1 410</b>

\*Model FL 10 is a flow meter.

**Rates include:** valves  
pipe and fittings  
installation

**Note:** The above meters are positive displacement meters for the measurement of brine, production water and oil production.

**2.160.200 MECHANICAL GAS METERS**

Type	Size		Base Rate (\$)
	(mm)	(in.)	
Dresser Roots	48	1.5	<b>2 000</b>
Dresser Roots	60	2.0	<b>2 450</b>

**Rates include:** pipe and fittings  
Installation

**2.160.300 LIQUID TURBINE METERS**

Type	Size		Base Rate (\$)
	(mm)	(in.)	
Smith Watchman	27	0.75	<b>1 950</b>
Smith Watchman	33	1.00	<b>2 200</b>
Smith Guardsman	48	1.50	<b>3 950</b>
Smith Guardsman	60	2.00	<b>3 950</b>
Smith Guardsman	89	3.00	<b>4 750</b>
Halliburton	10-51	0.38-2.00	<b>1 000</b>
Halliburton	76	3.00	<b>2 150</b>
Halliburton	102	4.00	<b>2 900</b>

**Rates include:** pipe and fittings  
electrical  
installation

**2.160.400 TOTALIZERS AND ANALYZERS**

Type	Base Rate (\$)
CMOS CTC-61 Totalizer	4 350
Halliburton LO-11 Totalizer	1 100
Halliburton MC-11 Analyzer	1 250
Halliburton Net Oil Analyzer	4 900

**Rates include:** remote panel mounted installation

**Note:** Totalizers are used with turbine meters.  
Analyzers are used a probe to measure water in an oil stream.

**2.160.500 CAPACITANCE PROBES**

Size (mm)	(in.)	Base Rate (\$)
60	2	3 650
89	3	4 950
114	4	5 700

**Rates include:** probe and electric cable installation

**2.160.600 CHART RECORDERS**

Type	Base Rate (\$)
2 Pen Circular-6 900 kPa element	3 100
3 Pen Circular-6 900 kPa element	3 650

**Rates include:** tubing, valves and manifold pressure element  
temperature element  
spring chart drive  
installation

**2.160.700 TRANSMITTERS**

Type	Base Rate (\$)
Differential Pressure Flow	2 250
Pressure	1 650
Temperature	1 100

**Rates include:** electrical installation

**Note:** Rates are for Barton, Rosemount or Foxboro types.

**2.170 PRODUCTION MANIFOLDS**

**2.170.100 MANUAL—PER WELL**

Size (mm)	(in.)	Base Rate (\$)
60	2	8 000
89	3	10 400
114	4	12 000
168	6	16 000

**Rates include:** piping and fittings to headers per well  
 multiple valves per well  
 inlet, test, pigging and group headers per well  
 installation

**Note:** To determine the total cost of a multi-well manual manifold, multiply the cost per well (above) by the number of wells entering the manifold.

**2.170.200 ROTARY SELECTOR VALVE**

Type	Base Rate (\$)
Rotary Selector Valve	6 150
60 mm (2 in.) Inlets—per well, <b>add</b>	1 900
Electric auto—actuator <b>add</b>	3 750

**Rates include:** piping and fittings to rotary valve—per well  
 piping from rotary to test header—per well  
 valves—per well  
 installation

**Note:** To determine the total cost of a rotary selector manifold:

Multiply inlet manifold cost per well by number of wells entering the rotary valve.

Then, add this cost to the cost of a rotary selector valve and add the cost of an auto-actuator if found.

**Example:** Rotary Valve Manifold—5 Wells

5 well inlet manifolds @ \$1 900	=	\$9 500
1 Rotary Selector Valve	=	\$6 150
1 Electric auto— actuator	=	\$3 750
<b>Total Manifold Cost</b>	=	<u>\$19 400</u>

**2.180 PIGGING EQUIPMENT****2.180.100 PIG LAUNCHER/RECEIVER TRAPS**

Size (mm)	(in.)	Base Rate (\$)
60	2	5 000
89	3	5 200
114	4	6 650
168	6	12 100
219	8	13 150

**Rates include:** inlet, outlet and bypass valves  
bleed valve and bypass  
piping and fittings  
structural support  
installation

**2.180.200 PIG ENTRY TEES**

Size (mm)	(in.)	Base Rate (\$)
60	2	2 150
89	3	2 250
114	4	2 550

**Rates include:** block valves each side  
bleed valve  
installation

**2.180.300 PIG BALL VALVES—MANUAL INJECTORS**

Size (mm)	(in.)	Base Rate (\$)
60	2	2 650
89	3	3 250
114	4	5 450
168	6	12 700

**Rates include:** bleed valve  
Installation

**2.190 ELECTRICAL SERVICES**

**2.190.100 GENERAL SERVICE ENTRANCE ON THE SITE**

Unit	Base Rate (\$)
Single Phase Service, 120/240V, 101A to 200A*	2 780
Three Phase Service, 480V, 201A to 400A*	7 820
Three Phase Service, 480V, 401A to 800A*	14 850

\*Does not include line up to and including the meter.

**Rates include:** circuit panel, main disconnect, branch circuit breakers, splitter, disconnects and grounding trenching, cable, miscellaneous installation

A Sub-Station Transformer is required to step down a 480 Volt service to circuits of 460 Volt 3 Phase for motors and circuits of Single Phase 120/208 Volts for buildings, lights, etc.

A Sub-Station Transformer may be located inside a building or at an exterior plywood shelter and is found in association with electrical vaults, panels and switching gear.

**2.190.400 THERMO-ELECTRIC GENERATORS**

Unit	Base Rate (\$)
Less than 40W	5 200
over 40W	9 750

**2.190.500 REMOTE SYSTEM RADIO TOWERS**

Self-Supporting Height (m)	(ft)	Base Rate (\$)
8.5	28	1 550
11.0	36	2 050
13.4	44	2 550
16.5	54	3 050
20.7	68	3 500
Radio Antennas—building mounted antenna		420

**2.190.600 FIRE AND GAS DETECTION SYSTEMS**

Unit	Base Rate (\$)
Fire detection controller	4 500
Fire detector heads add each	2 000
Gas detection controller	2 200
Gas detector heads add each	1 250
Horn	350
Warning lights add each	500

**2.230 DEHYDRATORS****2.230.100 CALCIUM CHLORIDE DRYERS**

Diameter (mm)	(in.)	Height		Base Rate (\$)
		(m)	(ft)	
300	12	8.2	27	<b>12 850</b>
400	16	8.2	27	<b>15 550</b>
500	20	8.2	27	<b>17 250</b>
600	24	8.2	27	<b>22 000</b>
750	30	8.2	27	<b>25 550</b>
Pellet loading arm assembly <b>add</b>				<b>2 780</b>
Meter run and dry flow recorder <b>add</b>				<b>As found</b>

**Rates include:** vessel with integral scrubber  
calcium chloride pellets  
600 mm (24 in.) bed of glass beads  
scrubber heating coil  
dump valve, piping and flanges  
fuel gas scrubber with controls  
installation

**2.230.200 GLYCOL DEHYDRATOR PACKAGE - 2 PHASE**

Diameter (mm)	(in.)	Height		Base Rate (\$)
		(m)	(ft)	
300	12	4.3	14	<b>50 400</b>
400	16	4.3	14	<b>57 200</b>
500	20	4.3	14	<b>67 750</b>
600	24	4.3	14	<b>73 350</b>
750	30	4.3	14	<b>79 400</b>
Meter run and dry flow recorder <b>add</b>				<b>As found</b>

**Rates include:** 4 tray vessel and 2 phase integral scrubber  
glycol regenerator including reboiler  
glycol/glycol exchanger  
fire tube, flame arrestor, burner and pilot assembly  
fuel gas scrubber and control package  
standard dehydrator instrument package  
glycol pump, piping, fittings, tubing and valves  
process piping, controllers, gauges and glass  
installation

**2.230.300 GLYCOL DEHYDRATOR PACKAGE OPTIONS**

The following costs should be added to the glycol dehydrator rates found under Section 2.230.200

**ADDITIONAL TRAYS**

Vessel Diameter (mm)	(in.)	Rate/Tray (\$)
300	12	<b>580</b>
400	16	<b>810</b>
500	20	<b>990</b>
600	24	<b>1 090</b>
750	30	<b>1 820</b>

**Note:** Each additional 450 mm (18 in.) of vessel height above 4.3 m (14 ft) is assumed to contain one tray. Vessel heights are measured from seam to seam.

**THIRD PHASE ADDITION**

Vessel Diameter (mm)	(in.)	Rate/Tray (\$)
300	12	<b>3 050</b>
400	16	<b>3 150</b>
500	20	<b>3 450</b>
600	24	<b>3 750</b>
750	30	<b>4 100</b>

**Note:** For a third phase, the above rates are added to the scrubber and controls.

**STANDBY GLYCOL PUMP ADDITION**

Vessel Diameter (mm)	(in.)	Rate (\$)
300	12	<b>4 100</b>
400	16	<b>4 100</b>
500	20	<b>4 900</b>
600	24	<b>4 900</b>
750	30	<b>6 650</b>

**Note:** For a standby glycol pump complete with piping and valves, add the above rates.



**2.240 FILTERS****2.240.100 PECO LIQUID FILTERS**

Diameter (mm)	(in.)	Height (mm)	(in.)	Base Rate (\$)
168	6.6	787	31	<b>1 800</b>
168	6.6	1 168	46	<b>1 900</b>
219	8.6	813	32	<b>2 150</b>
219	8.6	1 422	56	<b>2 350</b>

**Rates include:** block valve and bypass valves  
 drain valve  
 piping and fittings  
 installation

**2.240.200 PECO GAS FILTER SEPARATIONS**

Diameter (mm)	(in.)	Height (mm)	(in.)	Base Rate (\$)
168	6.6	1 391	55	<b>4 450</b>
168	6.6	1 772	70	<b>4 600</b>
168	6.6	2 002	79	<b>4 750</b>
219	8.6	2 178	86	<b>6 900</b>

**Rates include:** block valves, bypass valve  
 drain valve  
 piping and fittings  
 installation

**2.240.300 PECO DRY GAS FILTERS**

Diameter (mm)	(in.)	Height (mm)	(in.)	Base Rate (\$)
168	6.6	660	26	<b>3 500</b>
168	6.6	1 041	41	<b>3 700</b>
168	6.6	1 270	50	<b>3 950</b>

**Rates include:** block valves, bypass valve  
 drain valve  
 piping and fittings  
 installation

**Note:** No instrumental or PSVs have been included in any of the rates. Filters may be applied in the removal of particles and liquid separation such as hydrocarbon fluids, glycols, process fluids, salt water, fresh water, and water solutions as well as filtering and separating gases. Filter pressure vessels can be vertical or horizontal with removable end closures.

**2.250 LACT UNITS****2.250.100 60 MM AND 89 MM PIPING UNITS**

Pump Size (kW)	(hp)	Base Rate (\$)
7.5	10	<b>47 350</b>
11.2	15	<b>54 750</b>
14.9	20	<b>63 400</b>
18.6	25	<b>76 750</b>
22.4	30	<b>85 000</b>
29.8	40	<b>107 000</b>
37.3	50	<b>145 700</b>
74.6	100	<b>151 750</b>

**2.250.200 114 MM PIPING UNITS**

Pump Size (kW)	(hp)	Base Rate (\$)
7.5	10	<b>49 450</b>
11.2	15	<b>56 850</b>
14.9	20	<b>65 500</b>
18.6	25	<b>78 800</b>
22.4	30	<b>87 100</b>
29.8	40	<b>107 650</b>
37.3	50	<b>146 350</b>
74.6	100	<b>152 350</b>

**Rates include:** skids and foundation  
 piping, valves and fittings  
 suction strainer, sampler  
 BS & W monitor, temperature indicator  
 charge pump and motor  
 shipping pump and motor  
 divert valve and metering  
 low pressure switch, motor switches  
 vibration switch, PSV  
 high discharge pressure switch  
 discharge pressure transmitter  
 electrical, controls and panels  
 installation

**Note:** 1 hp = 0.7460 kW  
 LACT Units found with pump sizes exceeding 74.6 kW (100 hp) should be considered as special installations and costs obtained.

**3.000 SCHEDULE B—ASSESSMENT YEAR MODIFIERS**

The following assessment year modifiers are for machinery and equipment described in the *2006 Alberta Machinery and Equipment Assessment Minister's Guidelines*.

<b>Assessment Year</b>	<b>Assessment Year Modifier</b>
2006	<b>1.56</b>
2005	<b>1.39</b>
2004	<b>1.29</b>
2003	<b>1.21</b>
2002	<b>1.19</b>
2001	<b>1.17</b>
2000	<b>1.14</b>
1999	<b>1.14</b>
1998	<b>1.10</b>

## 4.000 SCHEDULE C—DEPRECIATION

The depreciation factors for machinery and equipment described in the *2006 Alberta Machinery and Equipment Assessment Minister's Guidelines* are listed in Table 2—Depreciation Factors. Depreciation for machinery and equipment that is *not* described in Schedule C of the *2006 Alberta Machinery and Equipment Assessment Minister's Guidelines* shall be determined in a manner that is fair and equitable with the depreciation factors listed in Table 2.

The anticipated age life for machinery and equipment described in Schedule A is 20 years. The anticipated age life for machinery and equipment located in specific types of property is listed in Table 1.

**Age** refers to the chronological age or the effective age, in years.

**Chronological age** is the actual number of years elapsed from the year the machinery and equipment was built, to the assessment year.

**Effective age** refers to the estimated age of machinery and equipment based on its present condition, design features and engineering amenities. Effective age may be less than, equal to, or greater than actual age. Effective age is determined by examining the present condition, design features and engineering factors of comparable types of machinery and equipment.

4.001

TABLE 1—ANTICIPATED AGE LIFE

TYPE OF PROPERTY	ANTICIPATED AGE LIFE OF M & E
Acid Plant	20 years
Brewery	25 years
Brick Plant	25 years
Cannery	20 years
Chemical Plant	20 years
Cement Plant	20 years
Coal Processing Plant	20 years
Distillery	25 years
Dairy, Creamery	25 years
Enhanced Oil Recovery	15 years
Feed or Flour Mill	25 years
Gas Processing (including sour gas)	20 years
Gas Injection or Compression	20 years
Insulation Plant	20 years
Meat Packing Plant	25 years
Methanol Plant	15 years
Oil Sand Processing Plant	15 years
Oilfield Battery	20 years
Plywood/OSB*/Wallboard Manufacturing Plant	20 years
Pulp Mill	15 years
Pelitzing Plant (Feed)	20 years
Refinery (Metal)	15 years
Refinery (Oil)	20 years
Refinery (Sugar)	20 years
Roofing Plant	20 years
Saw or Stud Mill	20 years
Seed Cleaning Plant	25 years
Soft Drink Plant	20 years
Steel Mill	20 years
Sulphur or Fertilizer Plant	15 years
Tire Plant	15 years
Water Flood	20 years

\*OSB—Oriented Strand Board

## 4.002

TABLE 2—DEPRECIATION FACTORS - ANTICIPATED AGE LIFE

Age (Years)	10 Years	15 Years	20 Years	25 Years	30 Years	35 Years	50 Years	60 Years
0	75	75	75	75	75	75	75	75
1	75	75	75	75	75	75	75	75
2	75	75	75	75	75	75	75	75
3	73	75	75	75	75	75	75	75
4	66	75	75	75	75	75	75	75
5	59	71	75	75	75	75	75	75
6	53	66	74	75	75	75	75	75
7	48	62	70	75	75	75	75	75
8	43	58	66	72	75	75	75	75
9	40	54	63	69	74	75	75	75
10	40	50	60	67	71	75	75	75
11	40	47	57	64	69	73	75	75
12	40	44	54	61	67	71	75	75
13	40	41	51	59	64	69	75	75
14	40	40	49	57	62	67	75	75
15	40	40	46	54	60	65	74	75
16	40	40	44	52	58	63	72	75
17	40	40	42	50	56	61	71	75
18	40	40	40	48	54	59	70	74
19	40	40	40	46	53	58	68	73
20	40	40	40	44	51	56	67	72
21	40	40	40	42	49	54	65	70
22	40	40	40	41	47	53	64	69
23	40	40	40	40	46	51	63	68
24	40	40	40	40	44	50	62	67
25	40	40	40	40	43	48	60	66
26	40	40	40	40	41	47	59	65
27	40	40	40	40	40	46	58	64
28	40	40	40	40	40	44	57	63
29	40	40	40	40	40	43	56	61
30	40	40	40	40	40	42	55	60
31	40	40	40	40	40	41	54	59
32	40	40	40	40	40	40	52	58
33	40	40	40	40	40	40	51	57
34	40	40	40	40	40	40	50	57
35	40	40	40	40	40	40	49	56

**Note:** Expressed as percentage remaining.

TABLE 2—DEPRECIATION FACTORS - ANTICIPATED AGE LIFE (CONT.)

Age (Years)	10 Years	15 Years	20 Years	25 Years	30 Years	35 Years	50 Years	60 Years
36	40	40	40	40	40	40	48	55
37	40	40	40	40	40	40	47	54
38	40	40	40	40	40	40	46	53
39	40	40	40	40	40	40	46	52
40	40	40	40	40	40	40	45	51
41	40	40	40	40	40	40	44	50
42	40	40	40	40	40	40	43	49
43	40	40	40	40	40	40	42	49
44	40	40	40	40	40	40	41	48
45	40	40	40	40	40	40	40	47
46	40	40	40	40	40	40	40	46
47	40	40	40	40	40	40	40	45
48	40	40	40	40	40	40	40	45
49	40	40	40	40	40	40	40	44
50	40	40	40	40	40	40	40	43
51	40	40	40	40	40	40	40	42
52	40	40	40	40	40	40	40	42
53	40	40	40	40	40	40	40	41
54	40	40	40	40	40	40	40	40
>54	40	40	40	40	40	40	40	40

**Note:** Expressed as percentage remaining.

**5.000 SCHEDULE D—ADDITIONAL DEPRECIATION**

For any depreciation that is not reflected in Schedule C, the assessor may adjust for additional depreciation provided acceptable evidence of such loss in value exists.



**2006 Alberta Machinery and Equipment Assessment Minister's Guidelines**

**ISBN-0-7785-5012-5**





