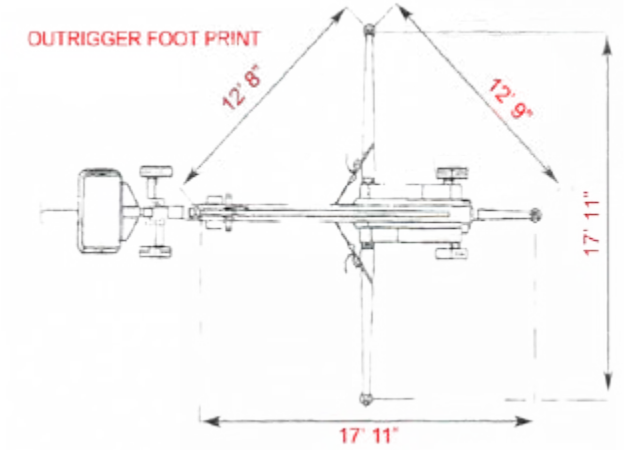
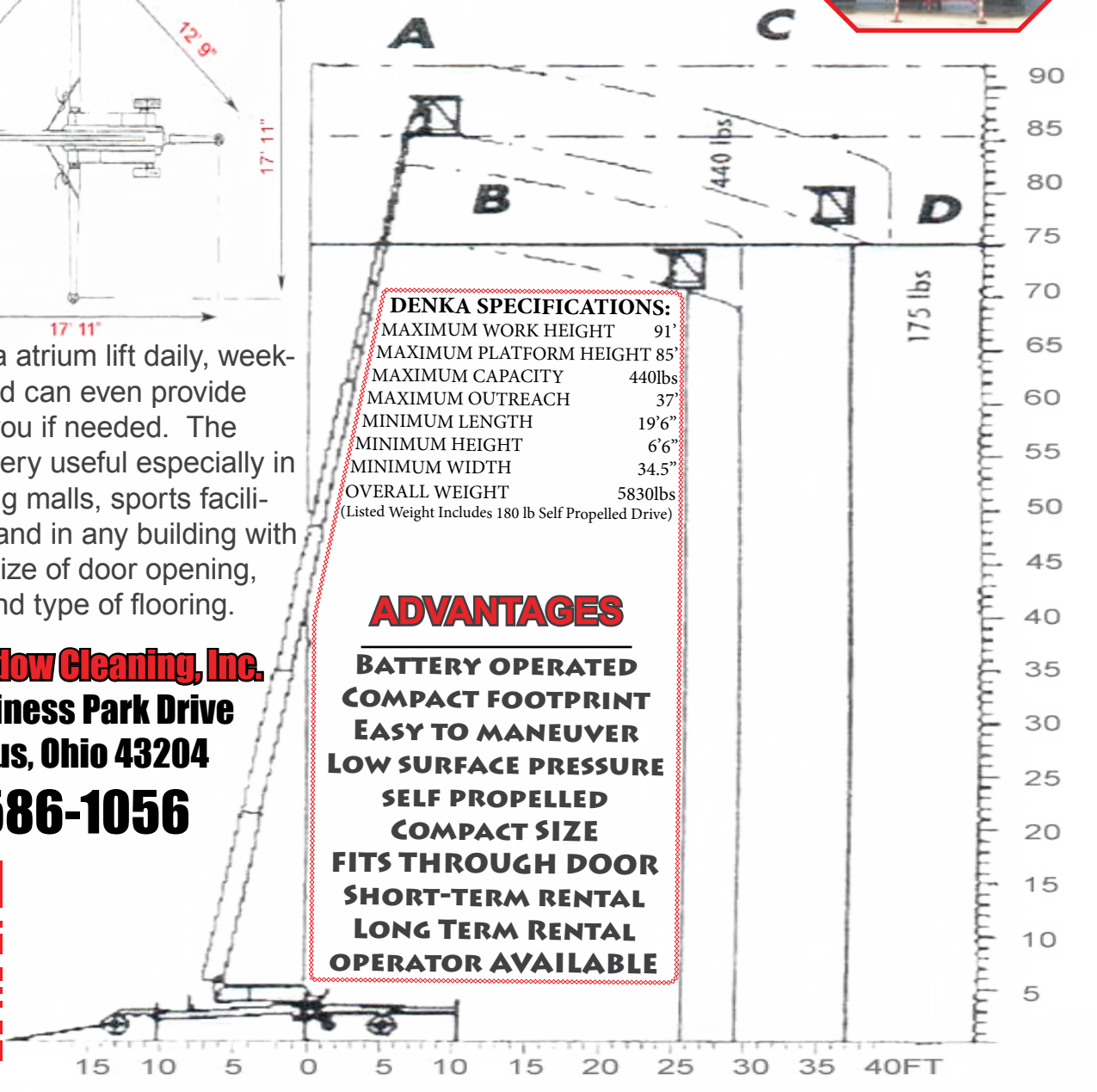
Globe Window Cleaning, Inc.
DENKA ATRIUM LIFT RENTAL

DENKA 90' SELF PROPELLED ATRIUM LIFT RENTAL

Specialized self propelled Denka Atrium lift with a 91 foot high reach. This battery driven, light weight, maneuverable lift can fit through a regular 36" door and is essential for many jobs, including atriums, churches and shopping malls.



We rent the Denka atrium lift daily, weekly, and monthly and can even provide a lift operator for you if needed. The Denka has been very useful especially in churches, shopping malls, sports facilities, high atriums and in any building with restrictions as to size of door opening, maneuverability and type of flooring.



DENKA SPECIFICATIONS:

MAXIMUM WORK HEIGHT	91'
MAXIMUM PLATFORM HEIGHT	85'
MAXIMUM CAPACITY	440lbs
MAXIMUM OUTREACH	37'
MINIMUM LENGTH	19'6"
MINIMUM HEIGHT	6'6"
MINIMUM WIDTH	34.5"
OVERALL WEIGHT	5830lbs

(Listed Weight Includes 180 lb Self Propelled Drive)

ADVANTAGES

- BATTERY OPERATED
- COMPACT FOOTPRINT
- EASY TO MANEUVER
- LOW SURFACE PRESSURE
- SELF PROPELLED
- COMPACT SIZE
- FITS THROUGH DOOR
- SHORT-TERM RENTAL
- LONG TERM RENTAL
- OPERATOR AVAILABLE

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Made by:
Per Bøwe Møller

DENKA-LIFT

Calculation of maximum surface pressur , DKN3MK25/28

In this ocument, the maximum surface pressure beneath a DKN3MK25/2 lift's base plate (page 1) as well as under each tire (pa e 2) is calculated.
The res ults are shown in three common units.

Facts DKN3MK25/28

Total w ight of the lift $m_{lift} := 2650 \cdot kg$ $m_{lift} = 5842.2\,lb$

Roun base plate

Base p ate's diameter $d_{fod} := 140 \cdot mm$

Area o foot plates $A_{fod} := \frac{\pi}{4} \cdot d_{fod}^2$ => $A_{fod} = 15393.8\,mm^2$ $A_{fod} = 24\,in^2$

Squen base plate

Base p ate's length $l_{fod\_tre} := 400 \cdot mm$

Base p ate's width $b_{fod\_tre} := 400 \cdot mm$

Area o foot plates $A_{fod\_tre} := l_{fod\_tre} \cdot b_{fod\_tre}$ => $A_{fod\_tre} = 160000\,mm^2$ $A_{fod\_tre} = 248\,in^2$

Calcu lations

Maxim m force that can be reached beneath a base plate

$F_{fod} := 75\% \cdot m_{lift} \cdot g$ => $F_{fod} = 19491\,N$

This re ults in a surface pressure with round foot pla es of:

$p_{fod} := \frac{F_{fod}}{A_{fod}}$ => $p_{fod} = 1.27 \frac{N}{mm^2}$

$p_{fod} := \frac{F_{fod}}{A_{fod} \cdot g}$ => $p_{fod} = 0.129 \frac{kg}{mm^2}$

$p_{fod} := \frac{F_{fod}}{A_{fod}}$ => $p_{fod} = 183.64\,psi$

This results in a surface pressure when the wooden plates are pl ced beneath the foot plates of:

$p_{fod\_tre} := \frac{F_{fod}}{A_{fod\_tre}}$ => $p_{fod\_tre} = 0.12 \frac{N}{mm^2}$

$p_{fod\_tre} := \frac{F_{fod}}{A_{fod\_tre} \cdot g}$ => $p_{fod\_tre} = 0.01 \frac{kg}{mm^2}$

$p_{fod\_tre} := \frac{F_{fod}}{A_{fod\_tre}}$ => $p_{fod\_tre} = 17.67\,psi$

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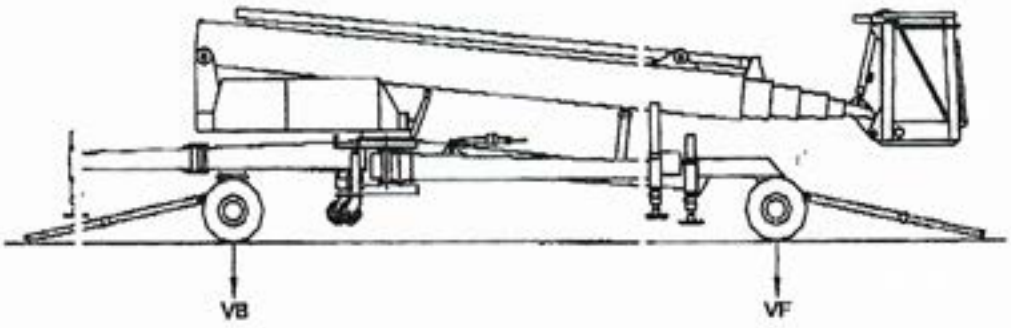
DENKA-LIFT

Wheel pressure



Facts DKN3MK25/28 with hydraulic drive

Weights

$VB := 1570kg$ $VB = 3461\,lb$

$VF := 1040kg$ $VF = 2293\,lb$

$Weight := VB + VF \Rightarrow Weight = 2610\,kg$ $Weight = 5754\,lb$

Wheel to road area

$A_{front} := 15400mm^2$ $A_{front} = 24\,in^2$ (per tire)

$A_{rear} := 15400mm^2$ $A_{rear} = 24\,in^2$ (per tire)

Calculations

Forces at wheel shafts

$F_B := VB \cdot g$ $F_B = 15396\,N$

$F_F := VF \cdot g$ $F_F = 10199\,N$

Pressure under each wheel

$$p_{front} := \frac{F_F}{2A_{front}} \qquad p_{front} = 0.33\,\frac{N}{mm^2} \qquad p_{rear} := \frac{F_B}{2A_{rear}} \qquad p_{rear} = 0.5\,\frac{N}{mm^2}$$

$$p_{front} := \frac{F_F}{2A_{front} \cdot g} \qquad p_{front} = 3.38\,\frac{kg}{cm^2} \qquad p_{rear} := \frac{F_B}{2A_{rear} \cdot g} \qquad p_{rear} = 5.1\,\frac{kg}{cm^2}$$

$$p_{front} := \frac{F_F}{2A_{front}} \qquad p_{front} = 48.03\,psi \qquad p_{rear} := \frac{F_B}{2A_{rear}} \qquad p_{rear} = 72.5\,psi$$

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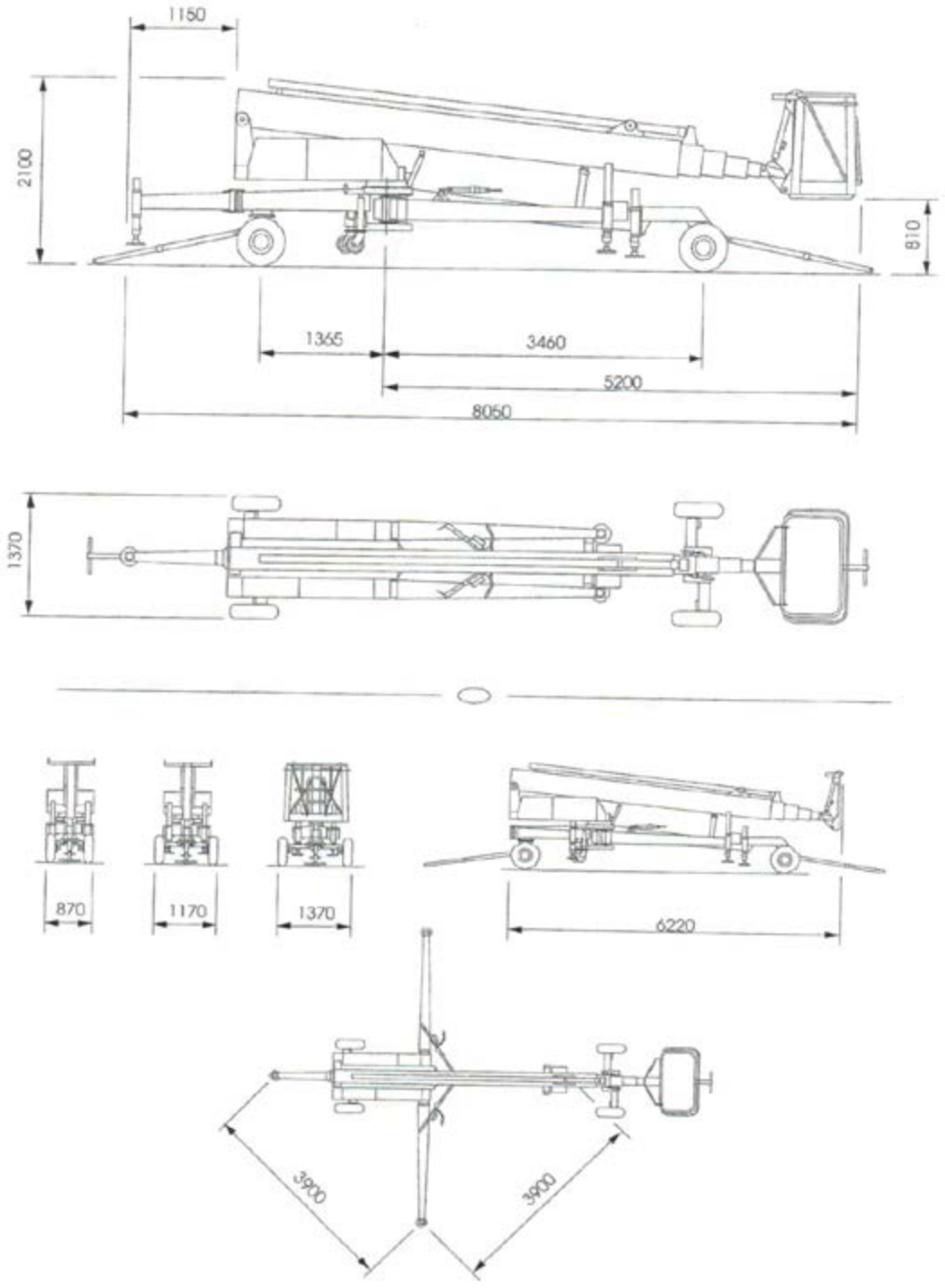
9.4 Dimensions Sketch DKN3 MK28



9.5 Working Diagram DKN3 MK28