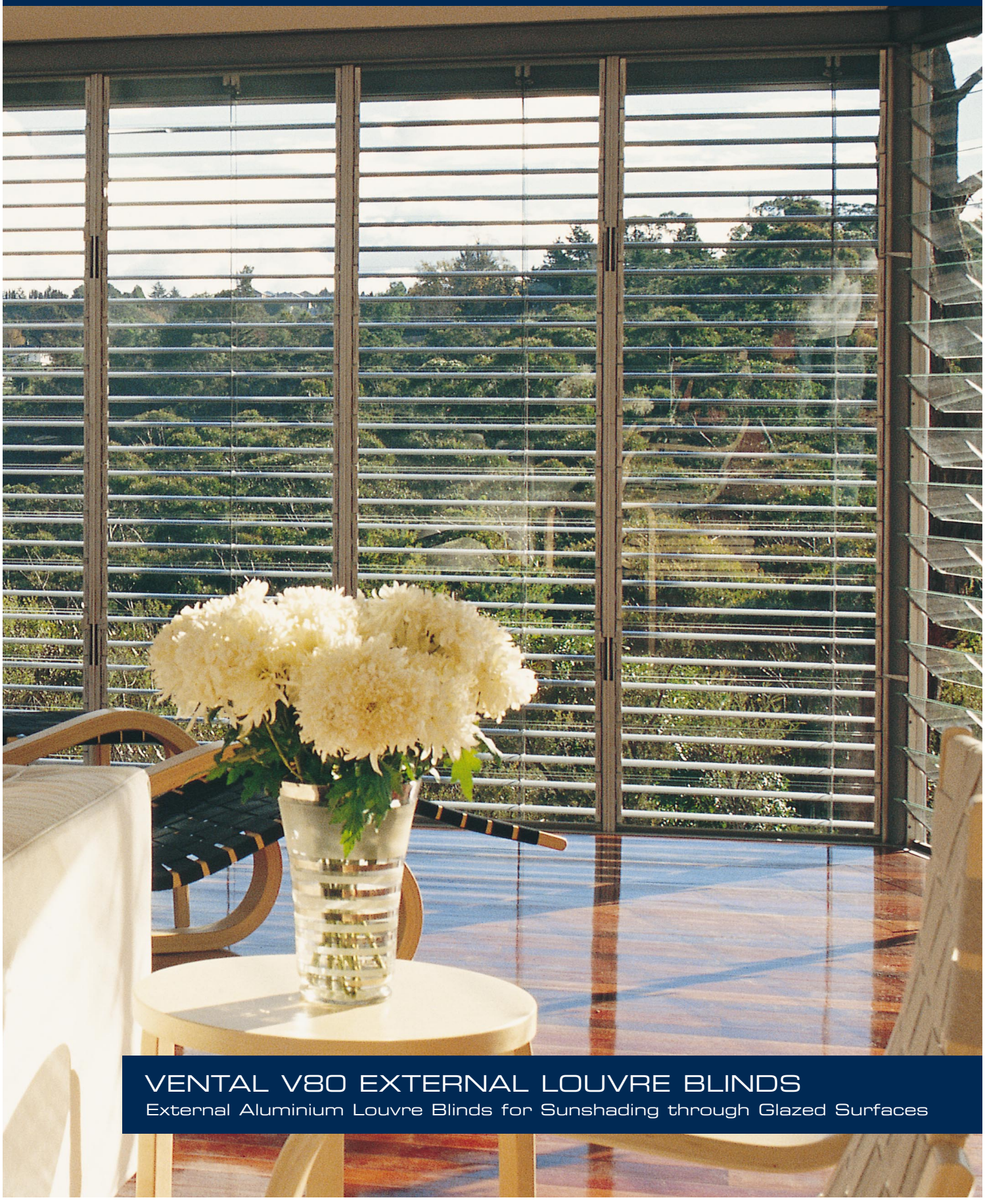
Vental AUSTRALIA

V80

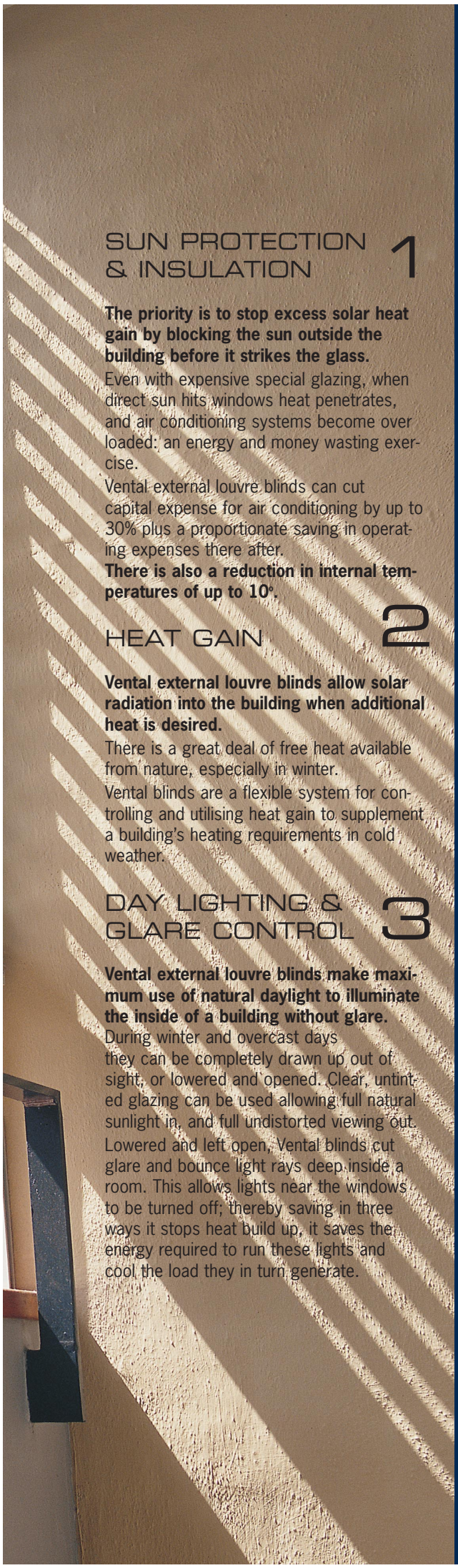


VENTAL V80 EXTERNAL LOUVRE BLINDS

External Aluminium Louvre Blinds for Sunshading through Glazed Surfaces

Blinds hung clear of glazing are not storm proof and need to be retracted on windy days.

THE BIG 3 REQUIREMENTS FOR SOLAR CONTROL



SUN PROTECTION & INSULATION 1

The priority is to stop excess solar heat gain by blocking the sun outside the building before it strikes the glass.
Even with expensive special glazing, when direct sun hits windows heat penetrates, and air conditioning systems become over loaded: an energy and money wasting exercise.
Ventral external louvre blinds can cut capital expense for air conditioning by up to 30% plus a proportionate saving in operating expenses there after.
There is also a reduction in internal temperatures of up to 10°.

HEAT GAIN 2

Ventral external louvre blinds allow solar radiation into the building when additional heat is desired.
There is a great deal of free heat available from nature, especially in winter.
Ventral blinds are a flexible system for controlling and utilising heat gain to supplement a building's heating requirements in cold weather.

DAY LIGHTING & GLARE CONTROL 3

Ventral external louvre blinds make maximum use of natural daylight to illuminate the inside of a building without glare.
During winter and overcast days they can be completely drawn up out of sight, or lowered and opened. Clear, untinted glazing can be used allowing full natural sunlight in, and full undistorted viewing out.
Lowered and left open, Ventral blinds cut glare and bounce light rays deep inside a room. This allows lights near the windows to be turned off, thereby saving in three ways it stops heat build up, it saves the energy required to run these lights and cool the load they in turn generate.

ADDITIONAL BENEFITS

No Disturbing Noise in High Winds

The design is such that slats do not touch each other, thus preventing annoying rattling caused by wind.

The profile of the guide rails incorporates synthetic resin slides in which the slat guides run silently with little play.

No Maintenance Worries

We have been fully manufacturing Ventral external blinds in Australia since 1985, so there are no delays waiting for imported blades or spare parts.

Wind Tunnel Tested

Ventral blinds are 80mm wide, stove enamelled aluminium slats in convex profile with rolled edges for rigidity and strength. Each slat is anchored to a guide rail by means of a nylon retaining pin fixed at one end of the slat.

Wind tunnel test have shown that Ventral blinds, in widths up to 3.5 meters & fitted close to the window, withstand gale force peaks of as much as 200 km/h applied from varying directions.

Test Reports Prove VENTAL Efficiency

Ventral external louvre blinds utilise the principle of the Australian verandah awning. They stop the suns rays from hitting the glass and reflect 85% of the solar heat, resulting in a substantial reduction of internal room temperatures (refer to diagram below).

Sun Shading

Research proves that exterior adjustable blinds are seasonally more effective for sun shading, glare protection and daylight control.

Ventral external blinds not only show the lowest shading coefficients (ie. they transmit less heat than any other system) but they also reduce the need for artificial lighting since they can be used in combination with clear glass and can be fully retracted in overcast weather.

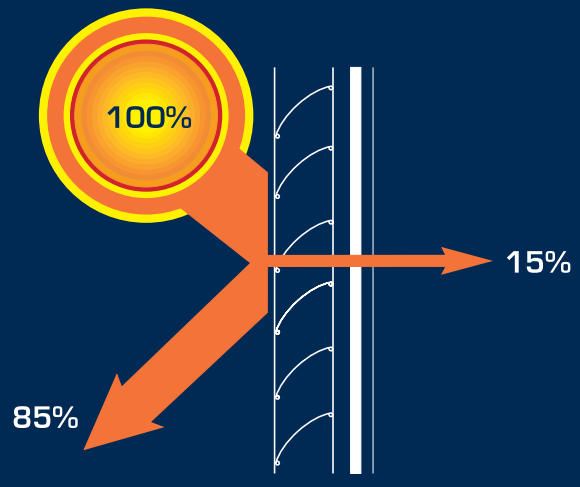
Reflective glazing, because of of its poorer shading coefficient, requires higher cooling loads than exterior blinds. As this type of glazing reduces infra-red radiation and visible daylight, artificial lighting becomes necessary in dull weather and in many cases on sunny days which further increases cooling loads.

Light coloured external blinds yield better shading coefficients than dark colours. Light coloured blinds admit less heat to the space between blinds and window. The inner glass surface temperature is therefore lower, which results in improved room comfort.

Freely suspended external blinds with air flow between blind and window have a considerably lower surface temperature than a solid facade of the same colour.

Overall there is noticeable saving in air conditioning, heating and lighting using Ventral external louvre blinds.

VENTAL EXTERNAL BLIND



Technical Description

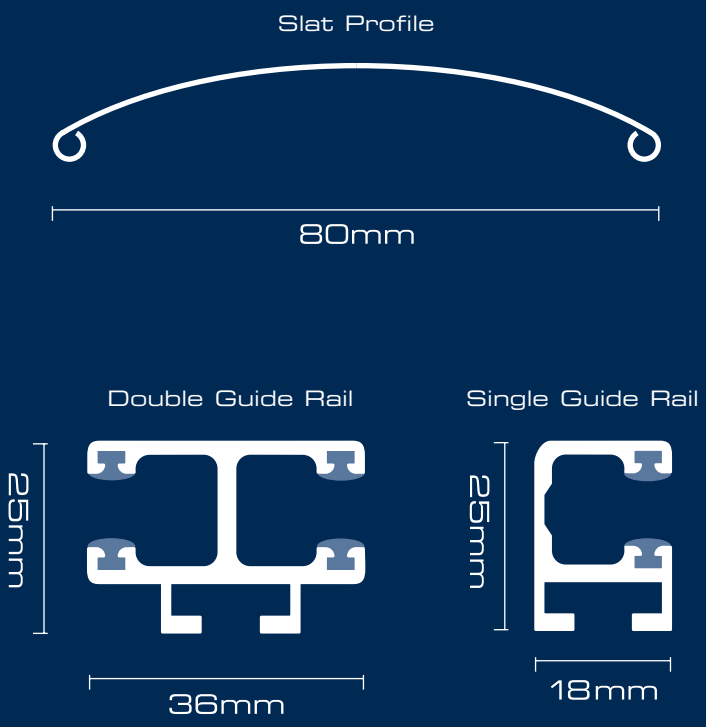
Specification:

80mm wide roll formed aluminium stove enamelled slats. Lifting band **8mm** wide and **4 fold ladder cord.** Each slat provided at one end with a **sonic welded 3 pin** guide retaining bolt. Guide rails are **natural anodised** extruded aluminium with sound deadening synthetic resin guide inserts. Bottom rails are **natural anodised** extruded aluminium. Operation by means of a silver anodised **aluminium rotating collapsible handle** or electric motors. The slats can be **tilted either way** in any dropped position. Head channels are mill finished extruded aluminium. All other blind components to be **stainless steel**, aluminium or UV stabilized nylon.

A number of standard slat colours are available (see colour card).

Special colours are available at extra cost and extended delivery times (for large jobs in excess of 200 blinds).

SCALE 1:1



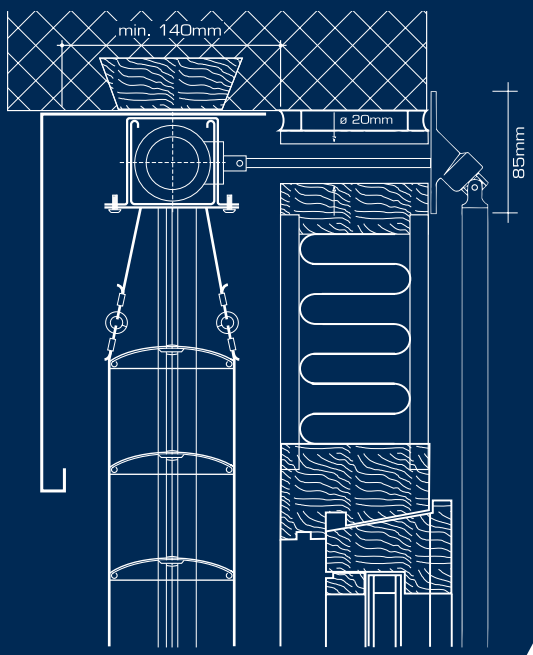
Electric Blind Motor

Blind motors are totally contained within the blind head channel. They are bi-directional short run motors with built-in thermo fuse and permanent lubrication.

Each motor is single phase 230VAC and draws approx. 0.9A at full load.

Motors are of high quality German manufacture and have an average life span of 7 years.

Wiring must be in 4-core FLEX to provide adequate weather proofing to the motor plug glands.



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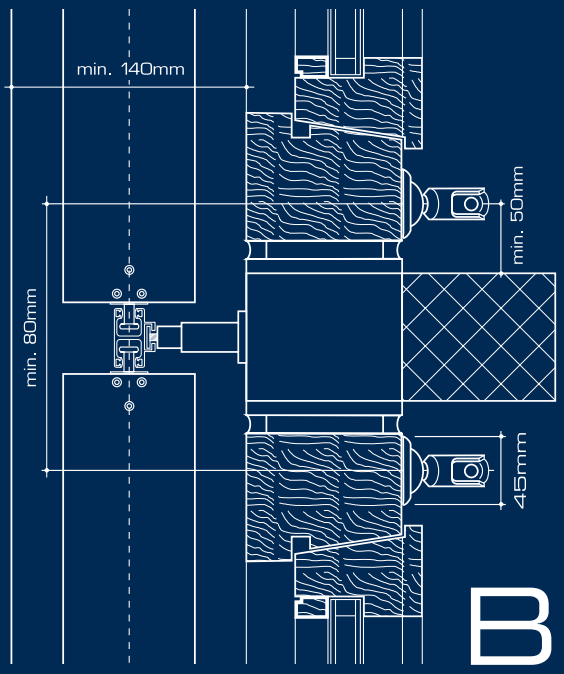

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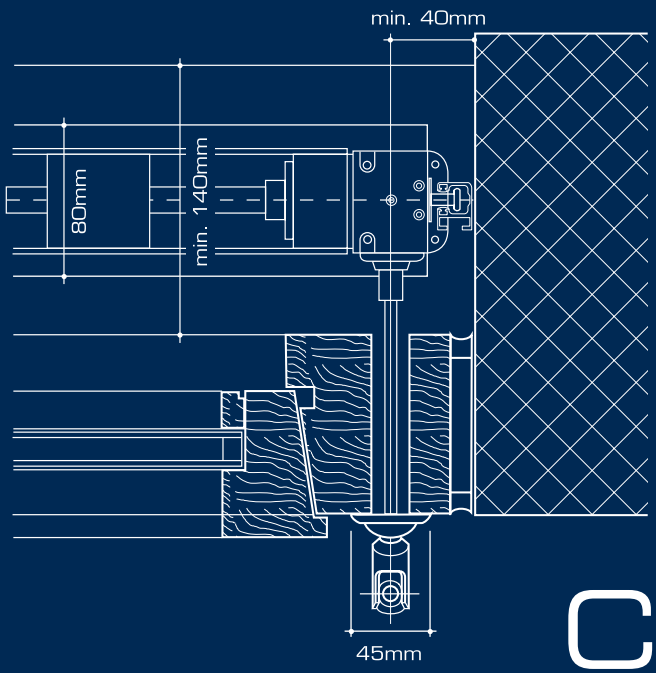

C

A

V80 Crank Section line drawing

B

V80 Coupling Plan line drawing

C

V80 Crank Plan line drawing

NOT TO SCALE

Design Considerations

General Considerations

Pre-planning for Vental external louvre blinds from the earliest stages of building conception is advantageous, because this is how best blind utilisation and greatest savings are obtained.

As a general rule of thumb, the 'pocket' into which the blinds will be retracted should be approximately 120mm high for every metre of window height. Plus 20mm when a motor drive mechanism is utilised.

Whenever possible, design for the largest square meterage per blind. This is 8m^2 (6m^2 if hand cranked). If it fits your design, the most economical way to cover this area is with blinds that are higher than they are wide. This is because the motor and head member are more expensive than individual blind slats.

Motorised Operation

Electric motor operation and computer controls are strongly recommended. This is especially important for large blinds and mandatory on blinds greater than 6.5m^2.

Maximum solar control is achieved with Sun Watchers and computer controlled electric motor operation. Local overriding controls for individual adjustments may be incorporated almost anywhere.

Significant savings may be achieved by designing windows close together, with narrow mullions and posts, and with no other structural protrusions in between, This way, blinds may be coupled together - 1 motorised blind may be able to drive up to 2 slave blinds.

Main leads, connecting leads, switches, plugs and connection work to be carried out in accordance with our instructions.

High Rise Buildings

For windows on upper floors of tall buildings, design narrower windows, so that blinds slats are short and well supported at the ends, allowing them to withstand extreme wind loads. Narrower blinds are also excellent in allowing access through lifts and stairs without the need for expensive external hoisting equipment.

Manual Crank Operation

When hand cranked blinds are to be used, design so that there is no steel work in the area where the crankshaft must penetrate the lintel. Adequate space must be provided for the gearbox and crank.

Window Access

Operable, inward opening or sliding sash windows simplify blind installation, repair and maintenance. They also save energy by inviting breezes inside on balmy days.

Colour Considerations

The colour of blinds will be reflected into the interior. Custom colours such as plum, lavender and the like should be avoided because of the psychological effect of such colours on building occupants. Also, whilst dark colours have excellent room darkening qualities, they do not have as good a shading coefficient as light or medium colours.

No Maintenance Worries

Sturdy weather and UV resistant lifting tapes and tilting cords of polyester and terylene fibres have withstood years of zeon arc accelerated testing without failing.

Cleaning

Blinds may be cleaned with mild soapy water and a sponge. Gently rinse blinds with a light hose.

DO NOT USE HIGH PRESSURE CLEANING EQUIPMENT.

Blind Sizes and Areas

WIDTH:	Max - 4000mm Min - 800mm
HEIGHT:	Max - 3500mm Min - 1000mm
AREA:	Max - 8m^2 (motorised)
	Max - 6m^2 (hand crank)

Glare Protection and Daylight Control

Ventral external blinds reduce the transmission of solar radiation into the building and provide diffused and more uniform daylight. Through tilt adjustment of the louvres, Ventral external blinds shield against direct sun rays at all times.

The fact that available daylight can be exploited in an optimal way for room lighting by raising or adjusting the Ventral external blinds constitutes another major advantage of this type of sun shade. In the case of reflective and heat absorbing glass, even with the addition of interior blinds to prevent glare, the degree of daylight regulation that is possible is very limited, and the use of such a combination often reduces the daylight levels to below acceptable standards.

Room Darkening

Light coloured Ventral external blinds are more efficient in transmission and diffusion of daylight than dark coloured blinds. Darker coloured Ventral external blinds provide better room darkening but are not found to be ideal for the eyes because of the sharp brightness contrasts when looking outside.

Visual Contact with Outside

Visual contact with the outside world is maintained with Ventral external blinds by the simple adjustment of the tiltable slats. Privacy is also maintained.

The use of clear glazing provides a natural colour view of the outside.

Weather Resistance

Ventral external blinds are made of special weather resistant materials since they are exposed day after day to sun, wind and other environmental influences.

Automatic Controls for Totally Integrated Buildings Systems.

Considerable energy savings are realised when automatic controls are used. Ventral provides a variety of sensor and control options, including complete central command computers. In addition, Ventral controls are compatible with most other energy conservation systems.

Technical Note

Technical details of blinds contained in this brochure may change without notice so it is important that you check with Ventral Australia Pty. Ltd. before finalising design details of lintels, sills, reveals, covers, etc. We want your energy efficient building to work at maximum capacity.

Note

Ventral external blinds do not offer any protection from fire or break-in and are not designed to provide protection from wind and rain. Blinds should always be fitted close to glazing or, if fitted without backing, retracted in strong wind.

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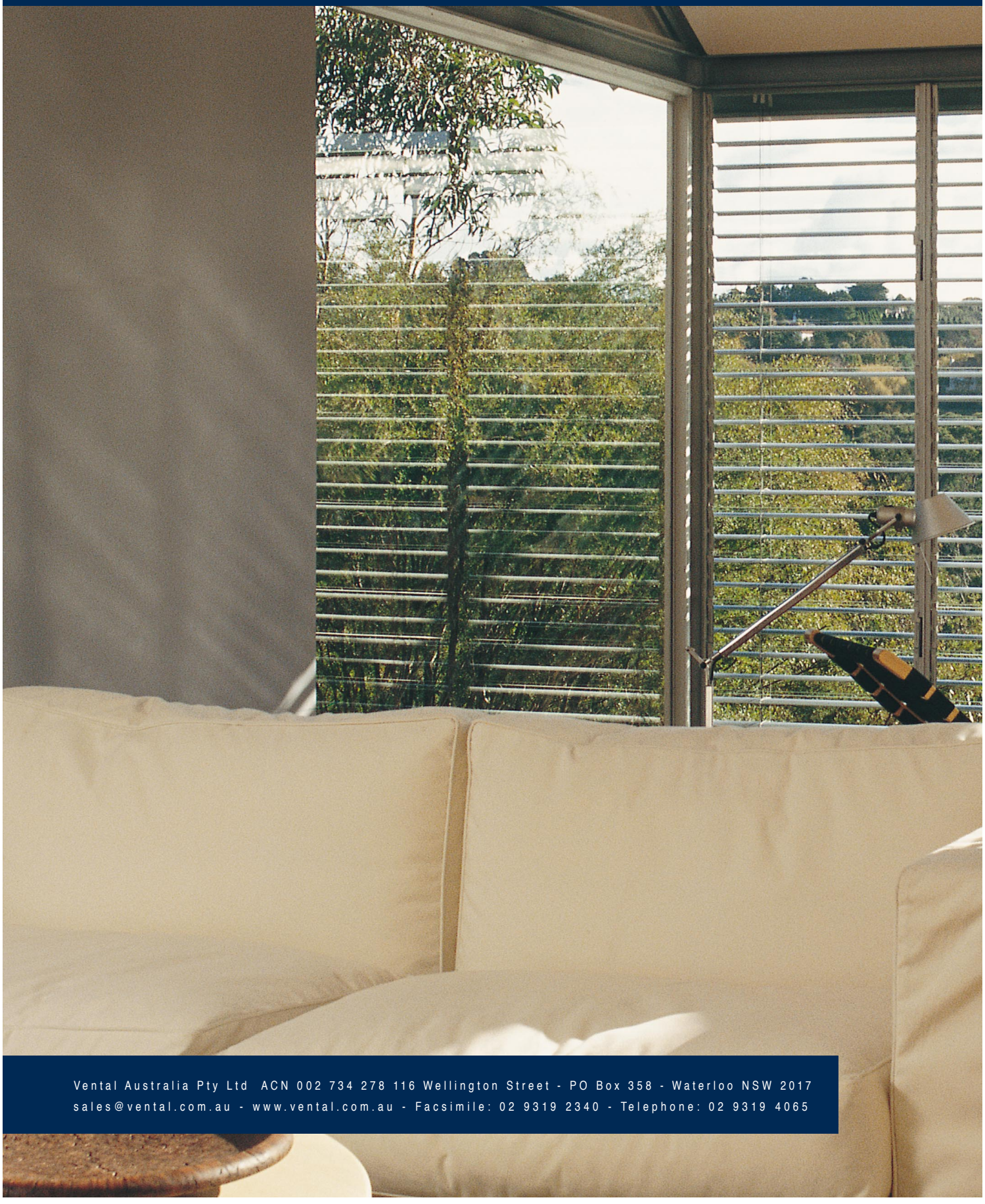

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