

中国民用航空局
CIVIL AVIATION ADMINISTRATION OF CHINA

型号合格证数据单
TYPE CERTIFICATE DATA SHEET

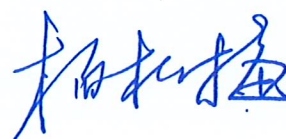
编号/No: TC0064A

版次/Revision: 0

型别/Model:

VA115

批准人/Approved By:



日期/Date: 2022 年 4 月 22 日

本数据单是型号合格证（编号：TC0064A）的组成部分，它规定了符合中国民用航空局的适航要求所颁发此型号合格证的产品的状态和限制。

This data sheet, which is part of Type Certificate (No: TC0064A), prescribes condition and limitation under which the product for which the type certificate was issued meets the airworthiness requirements of the Chinese Civil Aviation Regulation.

型号合格证持有人/Type Certificate Holder:

罗德施密特直升机有限公司

德国慕尼黑布雷恩纳大街 7 号, 邮编 80333

RS Helikopter GmbH

(RS Helicopter Co.Ltd)

Bienner Straße 7-80333 München

(7 Brienner Street-80333 Munich, Germany)

一、产品型号和批准日期/THE PRODUCT MODEL AND APPROVAL DATE

1. 产品型号/Product Model: VA115 (轻型运动类航空器/Light Sports Aircraft)
2. 批准日期/Approval Date: 2022 年 4 月 22 日

二、合格审定基础和生产依据/CERTIFICATION BASIS AND PRODUCTION BASIS

1. 型号合格审定基础/Type Certification Basis

a. 审定基础/Certification basis:

-《民用航空产品和零部件合格审定规定》(CCAR-21-R4) 第 21.26 条“型号合格证的颁发:
轻型运动类航空器”/“Certification rules for civil aviation products and articles”(CCAR-21-R4)

§ 21.26 “Issue of type certificate: Light sport category aircraft”;

-《超轻型直升机适航要求》(LTF-ULH, 编号 T323-2010601/16, 2016.12.20)/Bekanntmachung
von Lufttüchtigkeitsforderungen für Ultraleichtubschrauber (LTF-ULH, No. T323-2010601/16,
2016.12.20);

-《轻型运动直升机技术标准》(2019 年第一版)(民航适发〔2019〕9 号)第 LSH.549(c)、
LSH.561(b)(3)(V)、LSH.561(c)、LSH.603、LSH.1559 条/Light Sport Helicopter Technical
Standards (CAAC-AAD DOCUMENT No.2019-9) § LSH.549(c)、§ LSH.561(b)(3)(V)、§
LSH.561(c)、§ LSH.603、§ LSH.1559.

b. 专用条件/Special Conditions:

无/none

c. 等效安全/Equivalent Safety Findings:

无/none

d. 环境要求/Environmental Standards:

无/none

2. 生产依据/ Production Basis

依据型号合格证进行生产/Production under TC

三、技术特性和使用限制/TECHNICAL CHARACTERISTICS AND OPERATIONAL LIMITATIONS

1. 型号设计数据/Type Design Data

VA115 型直升机设计构型:《图纸目录》(CP-VA115-0-0210-004A, 版次 AA1) 及后续经批准的版本
/ Approved Design Data: Drawing List (CP-VA115-0-0210-004A, Issue AA1) or later approved revisions.

2. VA115 型直升机设计/The Details on Model VA115 Helicopter

类型/Type	共轴双旋翼直升机/Co-axial Dual Rotor System
座位数/Number of Seats	1
结构材料/Construction Material	机身/Fuselage: 焊接钢和铝管材/Welding Steel And aluminum Tube 桨叶、座椅、仪表板、尾翼/ Blade,Seat,Instrument panel,Empennage: 碳纤维环氧树脂/Carbon Fibre Epoxy Resin
起落架/Undercarriage	前三点固定式/Fixed Tricycle
尾翼/Empennage	双垂直安定面和中部水平安定面, H 型 /Dual Vertical Fins & a Horizontal Stabilizer,contour H
纵向操纵/Longitudinal Control	操纵杆/Cyclic Control System
垂直操纵/Vertical Control	总距杆/Collective Control System
横向操纵/Lateral Control	操纵杆/Cyclic Control System
偏航操纵/Yaw Control	脚蹬/Pedal
地面转弯/Steering on the Ground	脚蹬操纵,操纵杆和总距杆操纵/Pedal Control System, Cyclic Control System and Collective Control System
地面刹车/Braking on the Ground	主轮刹车, 也可以操纵杆和总距杆协调操纵/Main Wheel

Brakes Operating Together, also possible with Cyclic
and Collective Control System

3. 运行类别和使用限制/Categroy of Operation and Operating Limitations

运行类别/Categroy of Operation	昼间非特技目视飞行/Day VFR Non-Aerobatic Operation Only
工作温度/Service Tempreature:	+3°C至+27°C (37°F至 81°F)
允许机动/Approved Maneuvers	正常飞行中的任何机动包括 /Any Manoeuvre Necessary for Normal Flying Including: -侧滑(最大 45°侧滑角)/Yaw in Power(Max. Sliding Angle 45°) -自转(最大 15°侧滑角)/Autorotation(Max. Sliding Angle 15°) -悬停/Hover
禁止机动/Prohibited Maneuvers	禁止特技飞行/Aerobatics Prohibited

4. 重量平衡/Weight and Balance

最大起飞重量/Maximum Take-Off Weight	260kg(573lbs)
飞行员最大体重/Pilot Maximum Weight	100kg(220lbs)
飞行员最小体重/Pilot Minimum weight	75kg(165lbs)
参考基准/Helicopter Datum	旋翼轴线 0°, 减速箱与焊接平台接触面右手坐标系 /Rotor Axial 0°, right handed system on the interface between MGB & weld plate: x-轴顺航向; y-轴向上; z-轴侧向 /x-Follow the heading; y-up; z-lateral
重心前限/Most Forward CG	+16mm

重心后限/Most Rearward CG -48mm

侧向重心/Most Lateral CG $\pm 45\text{mm}$

5. 主旋翼 1/Main Rotor 1

直径/Diameter 4.5m

最大转速/Max Speed 666rpm

旋翼桨叶数量/Blade Number 2

旋翼桨叶翼型/Blade Profile NACA23012

旋翼桨叶厚度/Blade Thick 20mm

旋翼桨叶弦长/Blade Chord 150mm

6. 主旋翼 2/Main Rotor 2

直径/Diameter 4.5m

最大转速/Max Speed 666rpm

旋翼桨叶数量/Blade Number 2

旋翼桨叶翼型/Blade Profile NACA23012

旋翼桨叶厚度/Blade Thick 20mm

旋翼桨叶弦长/Blade Chord 150mm

7. 动力装置数据/Powerplant Data

发动机制造商/Engine Manufacturer 德国 Hirth 发动机公司/Hirth Engines GmbH

发动机型号/Engine Model F23 RS-01

燃油等级/Minimum Fuel Grade 95 号以上无铅汽油/Roz 95 octane

燃油总容量/Total Fuel Capacity 30liter

不可用燃油量/Unusable Fuel Capacity 0.7liter

最大起飞功率/Maximum Take-off Power 36.7kW(50hp) at 6500 rpm

8. 直升机性能概述/Summary of Performance on Helicopter

不可超越速度/ V_{NE} , Never Exceed Speed 95km/h(51kts)IAS

最大结构巡航速度/ V_{NO} , Maximum Structural Cruising Speed 95km/h(51kts)IAS

建议的起飞和爬升速度/ V_Y , take-off and Climb speed 64km/h(34kts)IAS

建议的自转速度/ V_{AR} , Recommendatory autorotation Speed 80km/h(43kts)IAS

最佳自转下滑速度/ V_{BY} , Best rotation slide speed 95km/h(51kts)IAS

最大起飞风速/Maximum take-off Speed

迎风/headwind Component: 8m/s(15kts)

侧风/Crosswind Component: 8m/s(15kts)

顺风/Tailwind Component: 8m/s(15kts)

9. 操纵面偏转范围/Control Surface Deflection

方向舵/Rudder

参考平面/Helicopter Datum 旋翼轴 0° / Rotor Axial 0°

方向舵参考平面/Rudder Refrence 直升机纵轴/Helicopter longitudinal Axle

左偏/Left $21.1^\circ \pm 2^\circ$

右偏/Right $21.1^\circ \pm 2^\circ$

垂直尾翼/Vertical $0^\circ \pm 1^\circ$

安定面/stabilizer

参考平面/Helicopter Datum 旋翼轴 0° / Rotor Axial 0°

安定面参考基准/stabilizer Refrence

低头负，抬头正/Down Negative,Up Positive

安定面/stabilizer

 $0^{\circ}\pm 1^{\circ}$

10. 直升机尺寸/Helicopter Dimensions

机体长度/Overall length

4500.0mm (177.17inches)

机体高度/Overall height

2600 mm (102.36in)

主机轮迹线宽度/Track of wheels

1456.0mm (57.32inches)

前主轮距/Track of Nose to Main

1800.0mm (70.86inches)

11. 设备和标牌/Equipments and Placards

按照《VA115 型直升机飞行手册》(AFM-VA115-0-0000-001A)规定的设备和标牌配置安装

/Equipments and placards required by the Flight Manual (AFM-VA115-0-0000-001A) must be equipped and installed.

12. 最小飞行机组/Minimum Flight Crew

1 名飞行员/1 Pilot

13. 其他限制见飞行手册/See the Flight Manual for other restrictions.

四、使用和维护技术资料/Operating and maintenance technical materials

- 《VA115 型直升机飞行手册》(AFM-VA115-0-0000-001A, 版次 AA3) 及后续经批准版本/

RotorSchmiede VA115 Flughandbuch (AFM-VA115-0-0000-001A, Issue AA3) or later approved revisions;

- 《VA115 型直升机维护手册》(AMM-VA115-8-0060-002A, 版次 AA2) 及后续经批准版本/

RS Helikopter VA115 Wartungshandbuch (AMM-VA115-8-0060-002A, Issue AA2) or later approved revisions;

- 《F23 RS-01 型发动机使用手册》(CP-VA115-0-0210-008A, 版次 AA0) 及后续经批准版本/

Engine Operator's Manual F23 RS-01 (CP-VA115-0-0210-008A, Issue AA0) or later approved revisions;

- 《VA115 型直升机发动机安装手册》(CP-VA115-0-0210-007A, 版次 AA0) 及后续经批准版本/

RotorSchmiede VA115 ultralight Anleitung Motoreinbau und Motorausbau (CP-VA115-0-0210-007A,

Revision AA0) or later approved revisions.

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